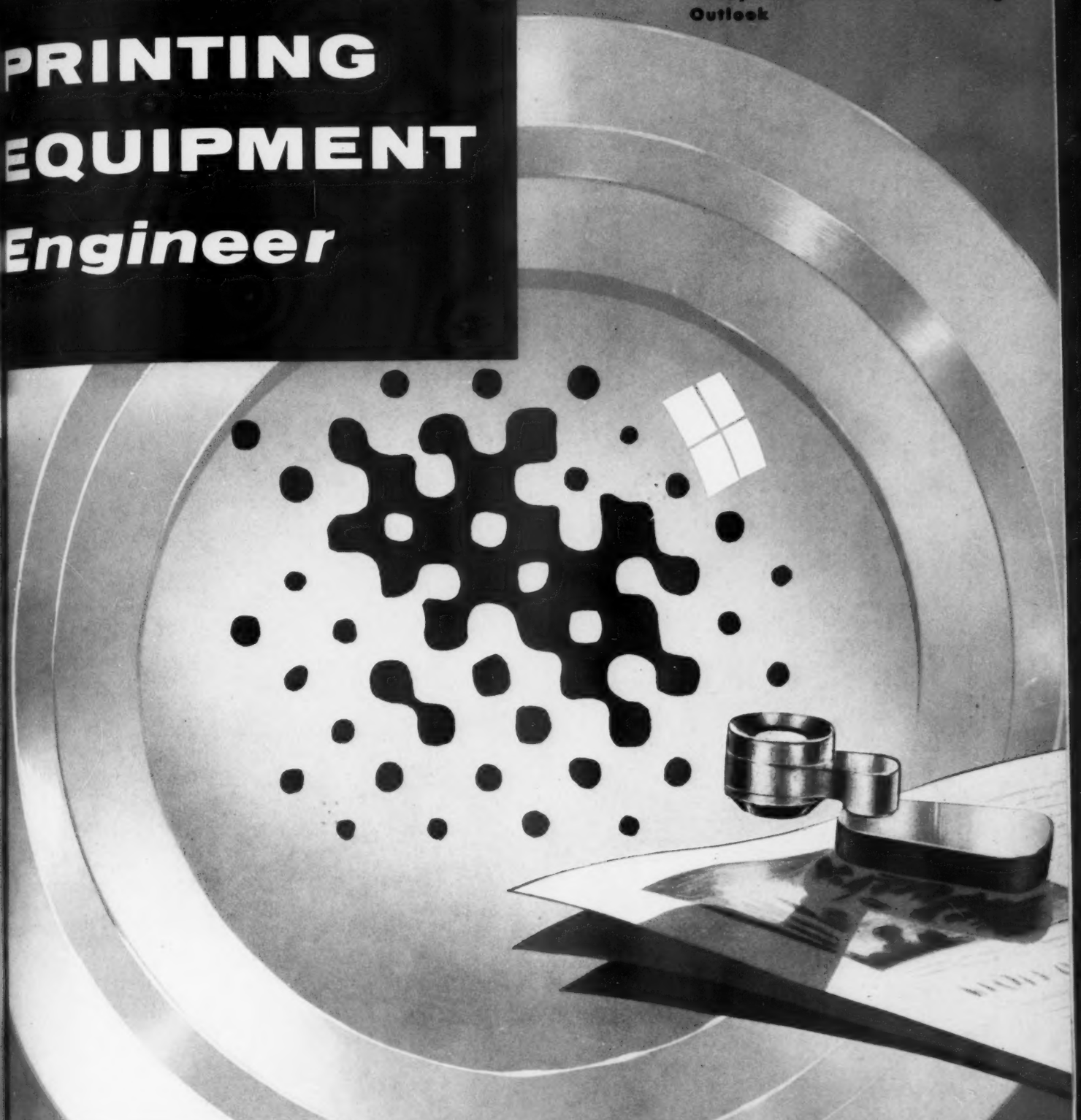
APRIL 1954

PRINTING EQUIPMENT Engineer

Relative Humidity—Its Control in the Pressroom

Northwest Conference Discussions

Today's Foreman Needs Changed Outlook



PLEASE ROUTE THIS COPY TO	
Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.
For Mag. please return to	

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

The STAR Hydraulically Actuated Quadder has provided . . .

FOOL-PROOF SIMPLICITY · HIGHER PRODUCTION

PRINTERS AND PUBLISHERS TO THE SOUTH'S LIVESTOCK INDUSTRY

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February 1, 1954

Linotype Parts Company, Inc.
South Hackensack
New Jersey

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After over six months of operation with your Star Hydraulic Quadder I thought it might be of interest to you to know that it is still working without having had a squirt, and is the easiest maintained Quadder we have.

We have had NO down time with it, and oiling it once a month keeps it in great shape.

Sincerely yours,

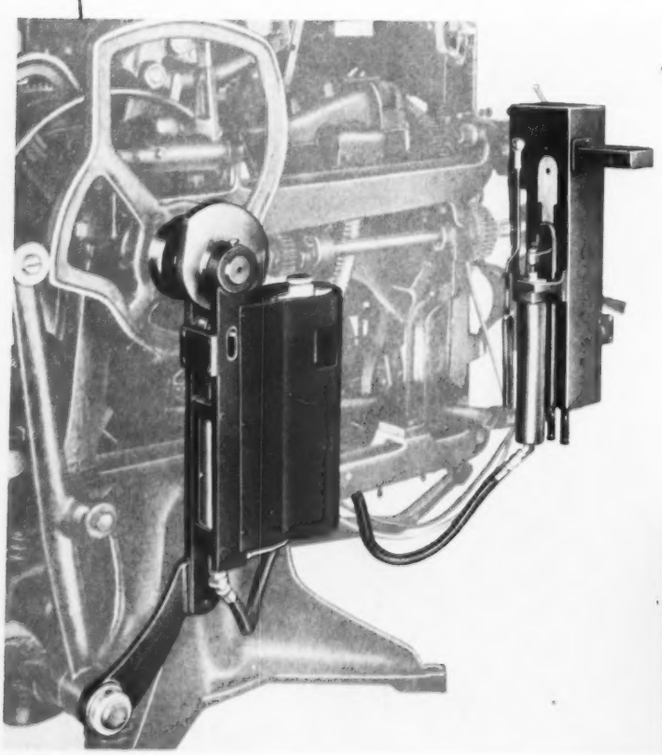
L. P. Crittenden, machinist
CODY PUBLICATIONS, INC.

LPC/eh

FOR

L. P. Crittenden

MACHINIST
CODY PUBLICATIONS, INC.



This is typical of comments received from enthusiastic STAR Quadder users. They all like the fool-proof simplicity provided by the patented rack and gear train. The STAR Quadder gives greater production without extra effort, too. Hydraulic Actuation, an exclusive matrix-saving feature, automatically brings the vise jaws in with a smooth "swoosh" instead of a sharp "slap" — and holds them firmly during casting.

You'll be a long step ahead when you install a STAR Quadder. It will pay for itself quickly in improved production, easier operation and higher profits. Write for full details today.

PRECISION
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LINOTYPE PARTS COMPANY
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"basic tool" for newspaper color...

Fast, accurate routing of curved plates is a "must" in the production of quality newspaper color printing. You get it with the STA-HI-MASTER ROUTER, with its specially designed high-speed head, feather-touch controls and daylight-bright illumination . . . Because the machine is completely enclosed, there is no hazard of flying metal chips, no dangerous and unsightly mess of shavings on the floor . . . Only the Master Router gives you the exclusive "bonus features" of the Automatic Plate Stripper, Double Page Matching Device and Air Jet Chip Remover. More than 200 satisfied users will tell you "they like it!" If you'd like the detailed story, just write, wire or phone.

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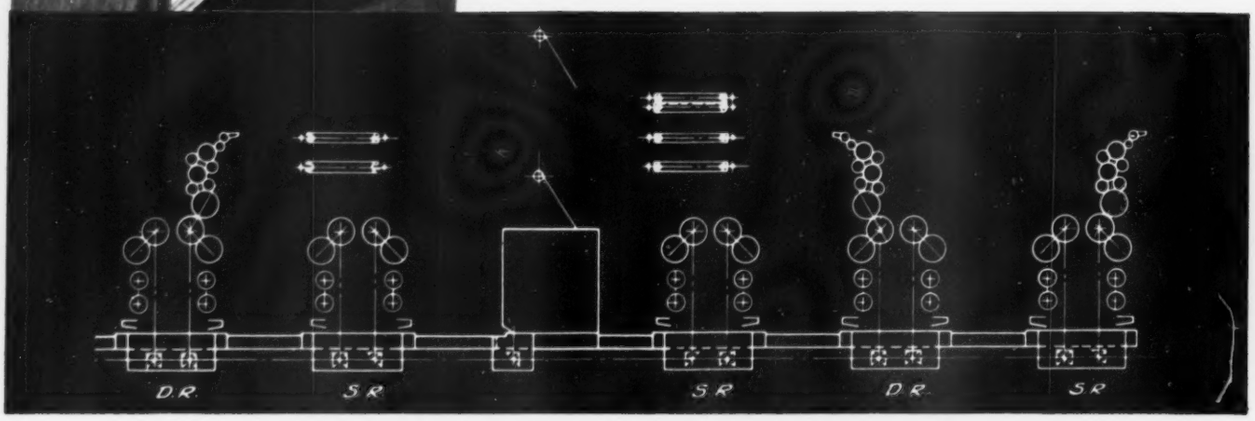
STA-HI®

. . . your best buy

"No doubt about it--

COLOR - with SCOTT PRESSES

has the punch that advertisers want"



One Example of Equipment for Variable Color Page Location

The above diagram shows a press equipped to enable any two adjacent units to print 4 colors on either side of one web and allowing the turning over of one-half of the web when desired to vary the color page location.

NEWSPAPER admen are hailing COLOR as the most effective linage booster on the newspaper scene today. Advertisers welcome the opportunity to put punch into "tired" black-and-white presentations, and newspapers offering ROP color report substantial and consistent gains each year.

It is of vital importance, however, that the color equipment employed will reproduce full-tone, perfect-register color at high speed newspaper production. For although the use of color is still attractive as a novelty to many advertisers, they may be expected to become more critical of printed results as this development comes into wider use.

SCOTT'S experience in designing and building color equipment for newspapers extends over so many years that SCOTT leadership in this field has been long-established. For excellence of color printing at high speed — for greatest diversification — flexibility of color positioning — adaptability to conditions of the individual newspaper pressroom, SCOTT equipment stands alone.

Write today for the booklet describing the outstanding advantages of SCOTT printing units when employed to add color to newspapers by either of the two basic methods.

Buy with CONFIDENCE - - - Buy SCOTT

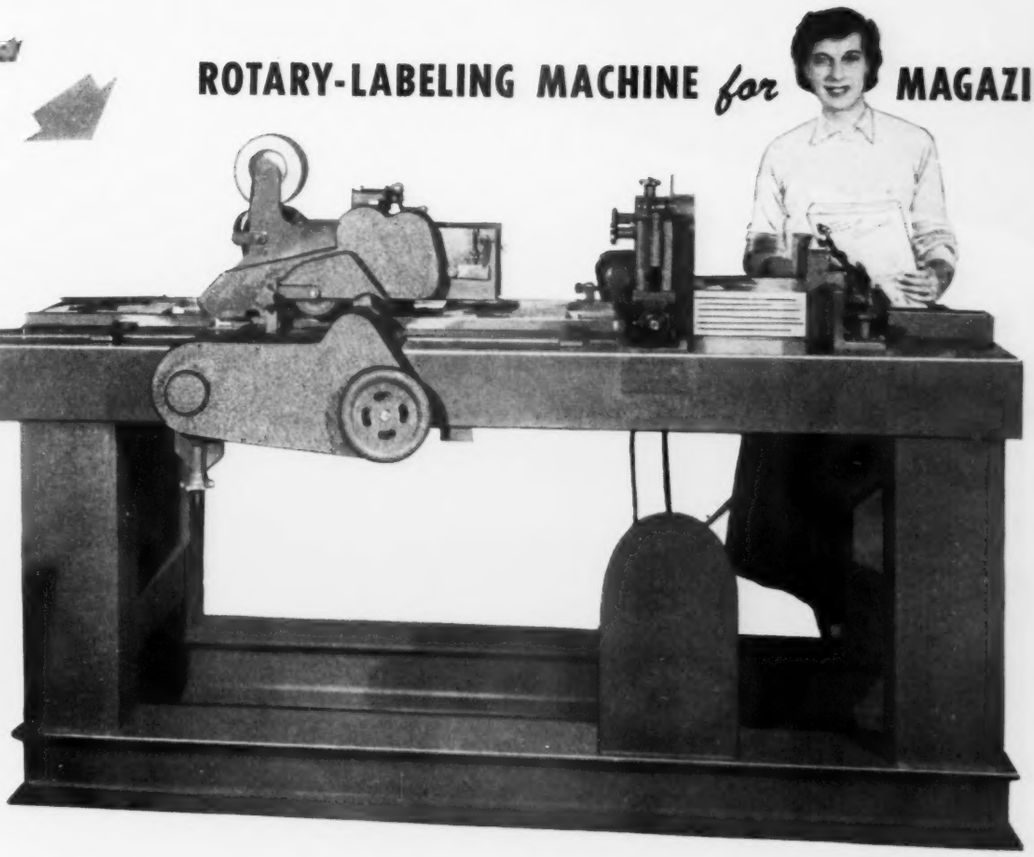
WALTER SCOTT & CO., INC.

PLAINFIELD, NEW JERSEY

5-54-3

Announcing the **NEW** *Magnacraft*

ROTARY-LABELING MACHINE *for* MAGAZINES



Pat. Pend.

By any comparison—

THE BEST MACHINE ON THE MARKET

1. Perfect Label alignment . . . *all the time!*
2. Simple to set up.
3. Smooth Rotary Action.
4. Simplicity . . . easily adjusted . . . anyone can operate it.

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HIGH-SPEED
DEPENDABLE
Write Today for Details!

When requesting literature, please state number of magazines individually mailed per month.

Magnacraft MANUFACTURING CO.
3138 West Chicago Avenue • Chicago 22, Ill.

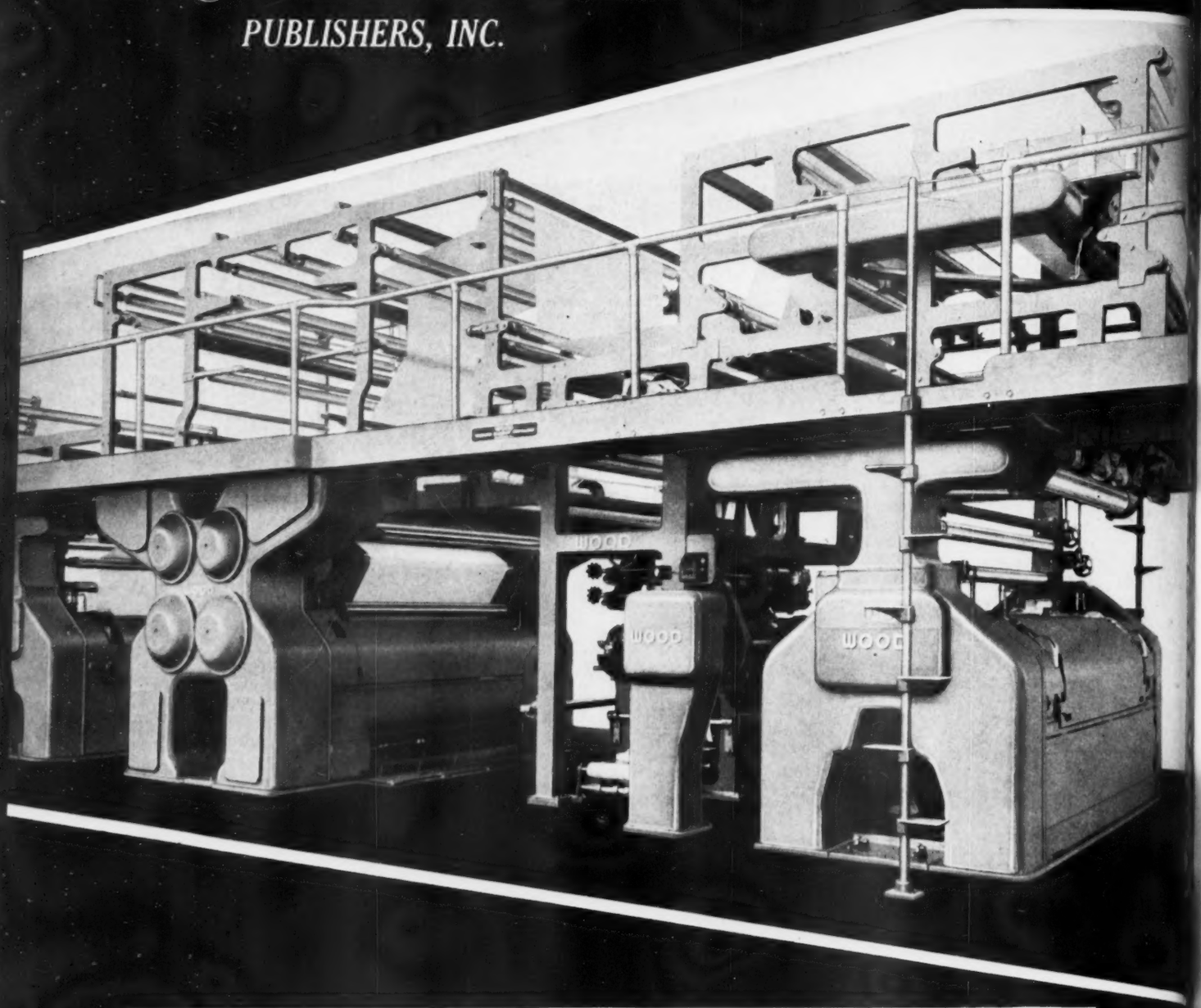
MANUFACTURERS of HIGH-SPEED PERIODICAL WRAPPING & MAILING MACHINES

New WOOD Metropolitan Press

being installed at

Rodgers & McDonald

PUBLISHERS, INC.



This expanding plant, located in the fast-growing Los Angeles market, chose WOOD equipment to provide the latest, most efficient, high speed black and ROP color printing facilities.

Supplied with Wood Automatic Electrotab Autopasters and Automatic Web-tension control, this Metropolitan Press will be the first on the West Coast to include the Wood patented Four Color Unit.

Here is another Wood installation specifically engineered and built to produce fine quality printed products.

WOOD NEWSPAPER MACHINERY CORPORATION

Plainfield, New Jersey

Executive Office: 501 Fifth Avenue, New York 17

PRINTING EQUIPMENT *Engineer*

April 1954

An industry-wide technical magazine published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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EDITORIAL STAFF

MacD. Sinclair, Editor

Adam Henry Reiser
Associate Editor

Edward H. Owen
Assistant Editor

BUSINESS STAFF

Don Will, Publisher

William L. Osborn, Eastern Advertising Representative, 1712 Grand Central Terminal, New York 17, New York. Phone: MUrray Hill 6-5980.

Melburn O. Simmons, Mid-West Advertising Representative, 333 North Michigan Ave., Chicago 11, Ill. Phone: DEarborn 2-6467.

George Gell, Central District Advertising Representative, 1276 W. Third St., Cleveland 13, Ohio. Phone: CHerry 1-6645.

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NOW
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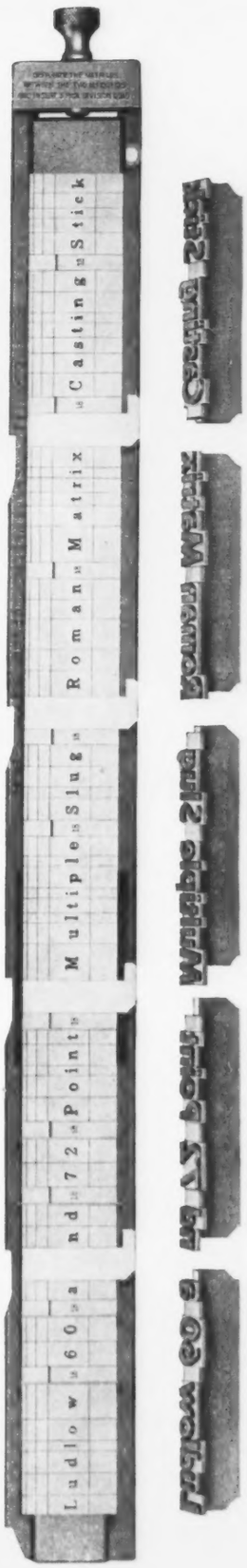
PROFITS
The form printing press which you buy today will be a vital part of your operation for many years to come! Make no mistake about it!

Long Lines LUDLOW-SET with a single justification



Showing a Ludlow stick with a line of matrices ready for casting the sluglines directly below. Notice the ready spacing of the line, the division quads, and the "overhangs" which fit perfectly into adjoining recesses.

Here is another economy feature of Ludlow operation which not only cuts costs but improves the quality of the composition. Long lines up to 112½ picas are readily assembled and spaced out in one stick, with only a single justification, even though the resultant line is cast in several sections.

The line of Ludlow matrices is assembled in the long stick, and the entire line is then spaced out as usual without regard to the length of the individual slug. Division quads are then inserted at the marks on the stick which indicate slug lengths. All that is then necessary is to tighten the stick knob before making a cast.

When the slugline is cast, it is delivered in unit slug sections. If a character happens to overhang the end of one slug, it fits into a recess automatically cast on the next slug to support that overhang.

This is just one of many Ludlow features which eliminate unnecessary delays and expense in the composing room. The Ludlow provides a system of composition of utmost flexibility. Literature telling the Ludlow story will be gladly sent on request.

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Do YOUR Perforating

the modern, fast, low-cost way with the

***Rosback* PONY VARI-SPEED ROTARY**

• • • • • • PERFORATOR • •

Do round hole perforating—the type most satisfactory to the majority of your customers.

Perforate two to ten sheets at a time—cutting costs to half or less as compared with vertical or rotary slot perforators.

Get the advantages of variable speed control which enables the operator to regulate the speed of the machine to suit the kind of stock and size sheet—and her experience.

Eat up perforating jobs either continuous or strike with a complete range of speeds from 24 to 48 head revolutions per minute.

Enjoy economy of maintenance through the Rosback head refill and exchange service which keeps your Pony Vari-Speed Rotary in first class condition at reasonable cost.

You can put the Rosback Pony Vari-Speed Rotary Perforator in your plant for even less than the cost of a vertical power perforator of similar size. And you'll gain in lower costs plus the refinements and conveniences of a machine that is the leader in modern perforating equipment. See your nearest Rosback dealer, or write us for complete descriptive literature.

F. P. ROSBACK COMPANY • *Benton Harbor, Mich.*

LARGEST PERFORATOR FACTORY IN THE WORLD

Equipment and *Supplies*

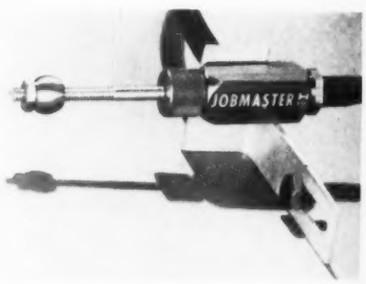
If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

Miehle's Small Offset Press

J. E. Eddy, President, Miehle Printing Press and Mfg. Co., has announced that the Miehle company will be prepared very soon to distribute its small Vertical-size offset press. According to Eddy, the press will be designed to produce small office forms, direct mail literature, sales campaign letters and similar work. Further details regarding the press will be made available in the near future.

Anti-Offset Spray Valve

A toggle action trip valve claimed to provide maintenance-free control for the synchronized operation of any type of anti-offset spray equipment has been announced by the Jobmaster Company. The valve is equipped with a spring-held 5/16 in. stainless steel ball which, when in a closed position, fits snugly into a brass seat. A toggle actuated stainless steel plunger pin depresses the bearing to open the valve, and releasing the toggle closes it. Sponsor claims the valve will operate at any air pressure from 1 lb. to 200 lbs. p.s.i. The valve unit is available with fittings for either ¼ in. rubber hose, ⅛ in. pipe or ¼ in. copper tubing. A cadmium plated bracket allows a wide range of mounting positions. Please request PEE No. 110 if you desire further information.



Booklet on Photocomposition and Magnesium Plates

A 40 page booklet in which is described the characteristics and production advantages of magnesium plates and photocomposition has been prepared by Intertype Corporation. The booklet contains five speeches delivered at printing conferences during 1953. Each speech presents a report on advances in the development of magnesium plates and specific cases

(Continued on Page 14)

designed FOR plus profit

EVERYTIME YOU PULL AN IMPRESSION

The exclusive Heidelberg toggle drive gives you smooth, controlled-power impression throughout the speed range. Platen closes with constant, even pressure—up to 40 tons! Eliminates makeready on many jobs—speeds them all.
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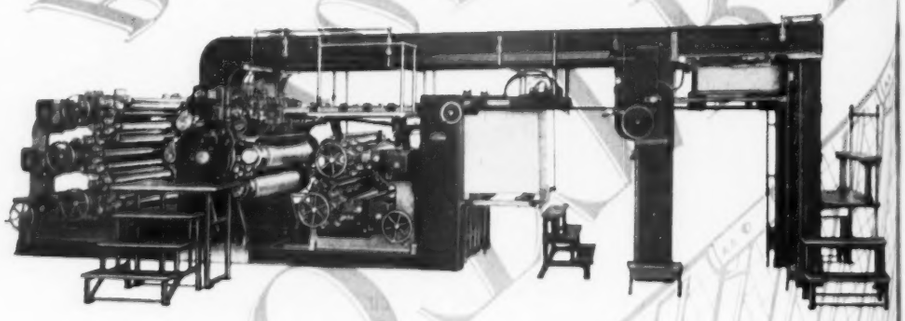
COTTRELL
COLOR PRESS
PIONEERS

Look into Rotary Letterpress!



NEW COTTRELL 36" x 48" C.F. 5-COLOR ROTARY LETTERPRESS

C. B. COTTRELL & SONS COMPANY
Westerly, Rhode Island

Claybourn Division,
Milwaukee, Wis.

Sales Offices:
New York, Chicago, London

Owners OF Strong GRAFARC FULLY AUTOMATIC, HIGH INTENSITY ARC LAMPS Wrote this Ad

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- **SHARPER REPRODUCTION** — The single light produces a clearer, sharper reproduction, avoiding the refraction from a double light. —*San Francisco platemaker.*
- **LIGHT STEADINESS** — There is no fluctuation in lighting. —*St. Louis printer.*
- **50% SAVING IN EXPOSURE TIME** — Has enabled us to reduce our exposures of deep-etch plates by two minutes and thirty seconds, and on flat plates, one minute, which certainly is a great saving to us. —*Winnipeg printer & lithographer.*

  Exposure time on photo-composing plates has been cut in half and with less than perfect contact, a good image is still retained. —*Large industrial company.*

  Cut our printing time in half. —*Los Angeles platemaker.*

  We have been able to shorten the time of exposure approximately 50% on both camera and monotype composer. —*Portland, Oregon, industrial company.*
- **DOUBLES CAPACITY** — Has doubled our capacity in making plates. —*Indianapolis lithographer.*
- **ECONOMICAL** — The saving in current has probably paid for the lamp, in addition to the saving in time in making prints. —*Waco, Texas, platemaker.*
- **MAKES JOBS EASIER** — The mechanical feed system takes a great deal of the fuss and bother out of light adjustment and saves time. Makes our job easier. —*Buffalo platemaker.*
- **EFFICIENT** — The voltage control mechanism assures maximum efficiency at all times. —*Pittsburgh platemaker.*
- **TROUBLE-FREE** — Trouble-free operation without shut down time. —*A leading map maker.*

SO One of the best investments we've ever made in shop equipment. —*Phoenix platemaker.*

One of our proudest possessions. —*New York City printer.*

We wonder how we got along without it for so long. —*Salt Lake City lithographer.*

We would hate to return to the older type. —*Binghamton, N. Y., lithographer.*

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● *Does wood permit the Vandercook Minimum Makeready Method to be used?*	No	Yes
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● *Does wood change dimensionally with the weather?*	Yes	No
● *Can wood be used over and over again indefinitely?*	No	Yes
● *Can wood be used for precision spacing material?*	No	Yes

THE LOW COST EQUIPMENT *for casting Lite-Base from type metal and flush mounting plates is supplied by us. By the Vandercook method, plates are mounted or unmounted in a few minutes. It costs less to mount plates on Lite-Base than on wood because the type metal can be recast and used over and over again.*

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for Case Histories of Users . . . Telling of Their Remarkable Savings in Makeready and Running Time!

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CHICAGO
222 West Adams Street
RAndolph 6-5383

NEW YORK
122 E. 42nd Street
OXford 7-2387

Equipment & Supplies

(Continued from Page 8)

are given to illustrate the advantages of magnesium plates and phototypesetting for all printing processes. Comparative etching, wear and reproduction values of magnesium, copper and zinc are presented. The relationship between magnesium plates and the Fotosetter phototypesetting machine is also dealt with.

The executives who made the speeches appearing in the booklet are A. R. Tommasini, Plant Supt., University of California Press, Berkeley, Calif.; Harold B. Plaut, Sales Promotion Mgr., Intertype Corp.; H. E. Swayze, Research Engineer, Dow Chemical Co.; and Louis Flader, Consultant, American Photoengravers Assoc. A copy of the booklet may be obtained by requesting PEE No. 125.

Roll Label Press Bulletin

Printing, diecutting, perforating, slitting and rewinding rolls of labels and tags in one operation on a Roll Label Press is described in a bulletin offered by the Champlain Co., Inc. The press is available with roll-fed flexographic or rotogravure printing units. The bulletin includes illustrations of construction details, a schematic line drawing of the vital die-cutting section, and description of the cutting punches and rewinds. For further information, please mention PEE No. 103 in your request.

Dock Ramp Bulletin

The Adjust-A-Dock 20,000 lb. capacity non-floating hydraulic adjustable ramp is described in a bulletin available from Rowe Methods, Inc. The model is raised or lowered to suit the requirements of each job by means of push button controls. When not in use, it is positioned flush with the platform floor to permit normal cross traffic. Please state PEE No. 107 when writing for further information.

Fiberglas Papers

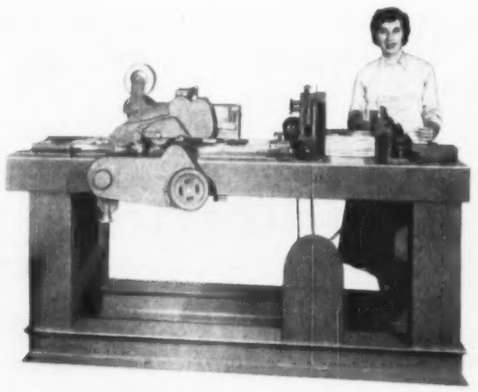
Owens-Corning Fiberblas Corp. has unveiled research findings, dating back to 1937, about Fiberglas papers that can filter airborne radioactive dusts or particles from corrosive liquids; raise operating temperatures of electrical equipment; and contribute strength, dimensional stability, fire safety, permanence and other properties in a variety of possible uses. The findings are presented in a 21 page booklet entitled *Fiberglas Products for Papermaking*. The booklet is intended to stimulate and assist paper producers in developing glass papers.

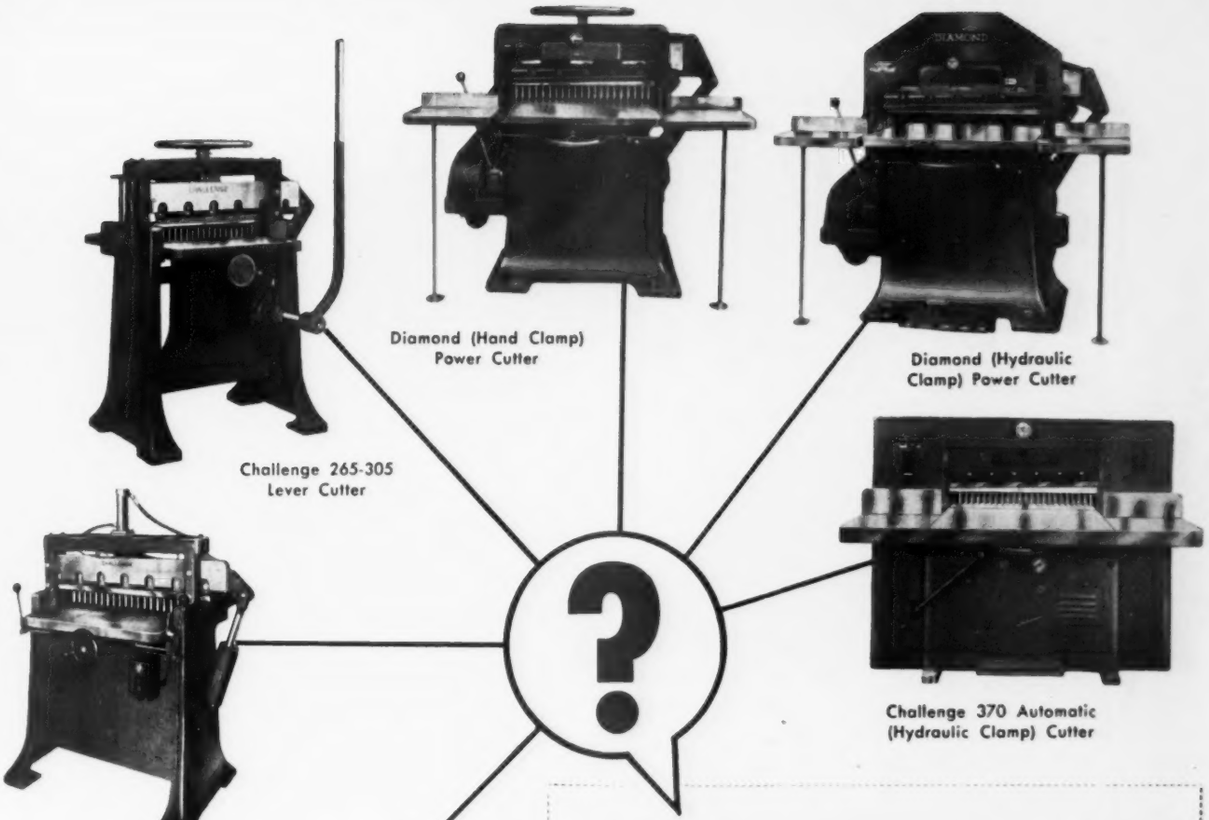
Properties obtainable from the Fiberglas in papers include: Thermal stability, chemical inertness, solvent resistance, high internal surface area, small void dimensions, low resistance to liquid and gas passage, non-flammability, high wet strength, dimensional stability, sterilizability, rapid drying, soft feel and resistance to corrosion, tarnishing, mold and rot.

Possible electrical applications cited for

(Continued on Page 18)

Magazine Labeling Machine—A magazine labeling machine designed for operation by one person has been reported by Magnacraft Mfg. Co. The machine is adjustable for handling magazines of all standard sizes and shapes. Sponsor claims rotary action permits label alignment at all times. Further details may be obtained by mentioning PEE No. 95 in your request.




Diamond (Hand Clamp) Power Cutter
Diamond (Hydraulic Clamp) Power Cutter
Challenge 265-305 Lever Cutter
Challenge 370 Automatic (Hydraulic Clamp) Cutter
?
Challenge 265-305 (Hydraulic Clamp) Power Cutter
Challenge Pony Lever Cutter

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IS YOUR CUTTING PROBLEM?

Or put it another way, *"How much time, money and effort are you wasting by overlooking the advantages of a Challenge Paper Cutter?"*

Challenge brings into your plant the results of more than 50 years' experience in the design and manufacture of precision cutting equipment. From lever cutters in bench and floor models . . . to power cutters with hand or hydraulic clamp . . . and the new automatic cutter with hydraulic clamp . . . Challenge superiority is always in evidence. No detail is overlooked to give the operator *maximum protection . . . more working freedom . . .* and *precise control of the cutting operation.*

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751

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Over 50 Years in Service of the Graphic Arts
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TIME FOR SEASONAL CHANGE TO

SUMMER-TYPE RAPID COMPOSITION ROLLERS

Time really flies! Make sure *you* are ready for warm weather—order now. And be sure to insist on RAPID COMPOSITION ROLLERS. More accurate. More durable. The favorite in leading shops across the nation for years.

RAPID ROLLER CO.

FEDERAL AT 26TH ST. • CHICAGO 16, ILLINOIS

Now in production

HARRIS OFFSET PRESS

. . . the smallest professional press in the industry

From the floor up, this completely new 14 x 20″ commercial job press is built for fast change-overs, fast makeready and fast running. And it's every inch a Harris.

Everything about this new press spells more profit for job printers. It handles the wide range of stocks expected of job presses. It runs at speeds up to 7000 sheets an hour. Its print quality is comparable to larger Harrises—and that means the best in the business. It will outproduce any other sheet-fed press of its size. It's ideal for standard form work, letterheads, and 9 x 12″ bleed pages. It's a sweet press for multicolor.

Makeready and running are so easy that you will find this press a new experience in operating simplicity and convenience. Its built-in controls and automatic features are much more complete than on other small job presses.

Above all, this is a Harris *professional* press. If you do any job printing, you can't afford *not* to have this new Harris.

HARRIS-SEYBOLD COMPANY

GENERAL OFFICES: 4510 East 71st Street • Cleveland 5, Ohio

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Magnesium Technology Caused Pot to Boil Over

THE pot boiled over recently in Milwaukee, when someone asked "What's cooking with Magnesium?" It was the February meeting of the Milwaukee-Racine Club of Printing House Craftsmen. The topic was the often hailed and much discussed magnesium plate for letterpress printing. Listened to were four experts on the subject, each concerned with magnesium for a different reason, and each convinced of a little different version of the value and utility of the metal.

Moderator of the panel was Clem Mawicke, President, Pontiac Engraving Co. (Chicago), Past Pres., Intl. Assoc. Electrotypers and Stereotypers, member of Printing Plates Research, Inc., and of the Technical Advisory Committee, Printing Industry of America.

The speakers led off with A. R. (Tommy) Tommasini of the University of California Press (Berkeley) Third Vice Pres., Intl. Assoc. Printing House Craftsmen.

Technical aspects of the use and etching of the metal by a new machine process were discussed by Harry (Doc) Swayze, a research engineer for the Dow Chemical Co., producers of magnesium plate stock.

Practical problems of the engraver in producing and pricing magnesium plates were discussed by Julius Mueller, President, Mueller Engraving Co. (Milwaukee) and Vice Pres., Photo-Engravers Assoc., Wisconsin.

Moderator Clem Mawicke started the program moving by asking for proof that magnesium could print 170 thousand impressions without showing any wear, that nearly a hundred mats could be rolled off a plate and still produce a good mat. "Magnesium," he said, "seems to be promoted as if it is the whole answer to all our problems." Explanations, he said, were needed by the printer and potential user.

Rising to the challenge, Tommy Tommasini, pointed out that while there were technical developments in almost every phase of the Graphic Arts, he believed letterpress printing would only recover a rate of growth equal to the other processes, if some system could be developed whereby printers could use a single surface for printing mixed forms. Makeup, lockup and madeready costs were pricing letterpress out of the market for many jobs, he said, that might stay letterpress if magnesium could be used. Magnesium, he said, would eliminate some costly makeup and allow anything that could be put on film to be put on a plate. Photoengravers, Tommasini claimed, would have whole new markets opened to them in the publication field.

Tommasini then cited and showed specimen jobs printed at the California State Printing Dept., which resulted in thousands of dollars of savings because they were done from magnesium plates. He cited split fountain color printing, an advantage to letterpress and the use of magnesium plates as a means to compete in cost with offset printing. He cited the use of magnesium in dry offset printing, where the plate is engraved on a thin flexible sheet to be mounted on an adapted offset press. He cited the use of magnesium in printing boxes and cartons, and as stamping plates for bindery operations.

Magnesium, Tommasini said, may not be the whole answer but it is a step in the direction of solving some of the problems that have been plaguing letterpress printers for a long time, "for it is in the solution of the problem of lengthy preparation time that letterpress will be able to remain competitive."

Harry Swayze, Research Engineer for Dow Chemical Co., who has worked for several years on the development of a machine to etch magnesium plates, next explained the theory and mechanics of the new machine. The problem, he said, was attacked from the viewpoint of engravers, who were interested in saving labor costs. The capacity of the Dow etching process machine, Swayze stated is six or seven flats an hour, producing plates without side etching, and eliminating the time-consuming process of hand-dusting and burning-in the resist. With a daily capacity of 30 to 35 flats, Swayze claimed the machine would reduce the costs of magnesium plates to where letterpress could gain many of the advantages of offset.

Advantages of magnesium were summarized by Mueller, an engraver with 28 years' experience at the bench and in the shop. He pointed out that the fine grain of the metal allowed strong supports for halftone dots; that the light weight of the metal made it easy for engravers to handle and for press equipment to run at higher speeds; that the metal etches easily, giving clean bottoms and proper depth for halftones; that the metal can be machined easily, since it is soft enough to be cut with a dull knife.

Mueller, also stated, however, that magnesium is extremely sensitive to liquids, and that even tap water will set up a reaction; that halftones finer than 100 screen require special negatives to overcome side etching when standard etching procedures are used; that fine screen halftones cannot be produced at a cost equal to or less than zincs; that copper can give better tonal gradation with greater ease.

Thus, for more than 200 members of the Milwaukee-Racine Craftsmen, the stew was still boiling, but it was expected that magnesium might soon be the answer to some of the problems of letterpress printers.

Magnesium Letterpress plates permitted this four-color children's book to remain in a letterpress shop, according to A. R. Tommasini (center), Manager, University of California Press, (Berkeley), and 3rd Vice Pres. Intl. Assoc. Printing House Craftsmen. The specimen is being shown to (from the left) Harry E. Swayze, Research Engineer for Dow Chemical Co.; Julius Mueller, Pres., Mueller Engraving (Milwaukee), Clam Mawicke, Pontiac Engraving Co., (Chicago), Past President Intl. Assoc. Electrotypers and Stereotypers, and Earl Ellis, Western States Envelope Co. (Milwaukee), Sixth District Representative, Intl. Assoc. Printing House Craftsmen.

Bible Paper Developed

A thin, lightweight Bible paper possessing whiteness, opaqueness and high tensile strength has been announced by The World Publishing Co., Cleveland. The announcement coincided with the publication of a new series of Bibles printed on the paper which is to be known as World Indo-Text. Five years of work by a papermaking company led to the development of a paper which would duplicate the toughness, thinness and opacity of India papers made originally by hand by the ancient Chinese from bamboo fiber.

The pulp from which Indo-Text is made is bleached and treated until it is whiter than milk. This whiteness determines the degree of contrast between the paper and the type itself, and has much to do with the ease of reading. A sheet of the paper measures approx. 0.0015 in. thick. According to World, it has been confirmed by tests and comparisons that Indo-Text is at least equal to regular India paper in thinness, weight and strength, surpasses it in whiteness and opacity, and has a soft silken texture.

The new series of World Bibles printed on Indo-Text are complete reference editions of 1360 pages each. They include a Concordance, center column references, geographical index, self-pronunciation plan, eight pages of maps, four pages of full color illustrations and a six page family register containing a family tree. The thickness of the Bible measures $1\frac{3}{16}$ in. and the weight is a little more than 1 lb. For comparison purposes, an average book which is comfortable to hold and easy to read contains about 300 pages.

ARE YOU FEELING MIGHTY LOW? SEE DR PEALE'S CONFIDENT LIVING ON PAGE 6, SEC 2
THE HOUSTON POST
4 STAR
Written and Edited TO MERIT YOUR Confidence
PLAN TO WATCH
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THE HOUSTON POST

TEXAS' LARGEST MORNING NEWSPAPER

CHOOSES HEADLINERS® FOR NEWS!

15 units . . . with GOSS Reels — Tensions — Pasters

Houston, largest city in the South, is a 2¼ billion dollar market . . . the nation's petroleum capital, the great cotton market, and a major chemical center. Its retail trading zone has almost a million and a half people.

With a circulation at a record 187,155*, virtually double that of 1940, THE HOUSTON POST concentrates on printing *news* — more news daily and Sunday than newspapers in many of the largest cities in the country.

In order to continue printing more news — and to print it faster — THE HOUSTON POST has ordered 15 Headliner units, with full color flexibility, Tension Plate lockup and Goss Reels-Tensions-Pasters. THE POST chose Headliners® to maintain its leadership in news coverage and to provide more full color facilities for advertisers.

THE GOSS PRINTING PRESS COMPANY
5601 West 31st Street,
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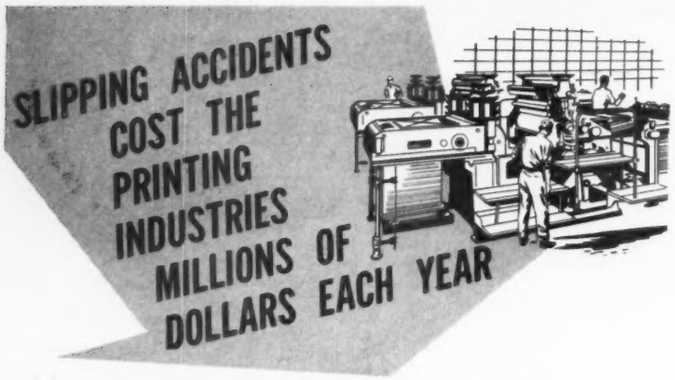
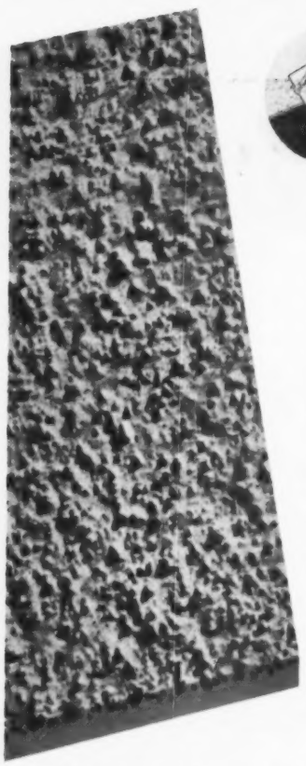
*Sept. 30, 1953, ABC publisher's statement.

WORLD'S LARGEST MANUFACTURER OF NEWSPAPER, MAGAZINE AND ROTOGRAVURE PRESSES



SLASH COMPENSATION INSURANCE PREMIUMS with

ALGRIP



Slippery floors in pressrooms that keep accident rates up, production down and insurance premiums out of line can be made safe quickly and easily by installing ALGRIP Abrasive Rolled Steel Floor Plate.

In countless plants, laying ALGRIP in slippery areas has stopped accidents and pared insurance premiums down to pocket size.

Hundreds of tiny abrasive particles impregnated *to a controlled depth of penetration*—an exclusive ALGRIP feature—into tough, lightweight steel plate gives every square foot of ALGRIP an abrasive "grinding-wheel" grain surface that takes a firm grip at every footstep. And ALGRIP's surface never becomes smooth because wear only exposes new particles.

ALGRIP foot safety pays for itself in savings of insurance premiums. Write today for full details on how ALGRIP can cut costs for you. There's no obligation.

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A.W. ALGRIP Abrasive Rolled Floor Plate
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, Pa.

Please send Booklet AL-30 on cutting costs with ALGRIP.

Name _____ Title _____

Address _____

City _____ Zone _____ State _____

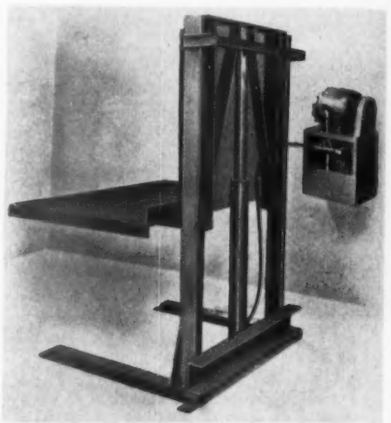
Equipment & Supplies

(Continued from Page 14)

Fiberglas materials include coil winding, condenser and transformer core papers; electrolytic uses visualized include battery separators and dialysis membranes. Dimensional stability of the materials suggest possible usefulness as specialized drawing or map papers; their permanence points up possibilities for legal records and other valuable documents. When requesting a copy of this booklet, please ask for PEE No. 101.

Hydraulic Feed Table

The hydraulic feed table, announced by the Revolvator Company, is designed for lifting stacks of paper to the desired levels on printing presses, paper cutters, stock tables, etc. The unit, when installed, is bolted to the floor allowing movement of the equipment if the floor plan of the plant is changed. The feed table shown in the accompanying illustration has a capacity of 400 lbs., a platform measuring 64 in. wide by 44 in. out from the uprights and a lift of 36 in. from a lowered height of 2¾ in.



The overall width of the Revolvator unit is the same as the platform width and the uprights. Platform back plate and hydraulic ram add 10 in. to the overall length. The oil tank, pump, valves and motor are combined in the single accessible unit shown. The size is 14 in. by 10 in. by 24 in. and in this case was arranged for wall mounting. Sponsor states pumping unit can be mounted at any convenient point, even in another room, as control is separate. In this case a constant pressure pushbutton was supplied for mounting on the machine which the Revolvator will serve.

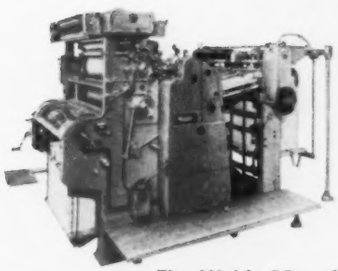
Other feed table sizes and types are also available. If you desire further information, please mention PEE No. 108 in your request.

Continuous Film Graph Sheet and Reproduction Film

Repro-Templets, Inc., announces an addition to its line of 2-dimensional layout equipment, a ¼ in. continuous film graph or grid sheet, which is printed

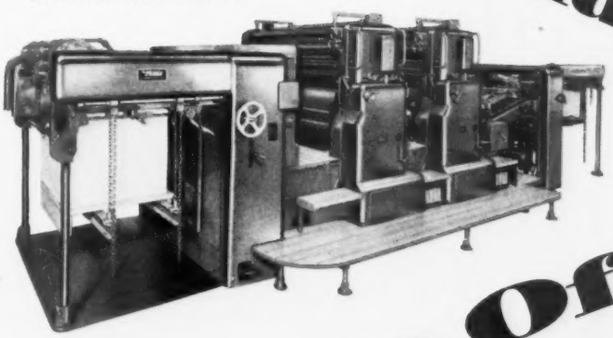
(Continued on Page 24)

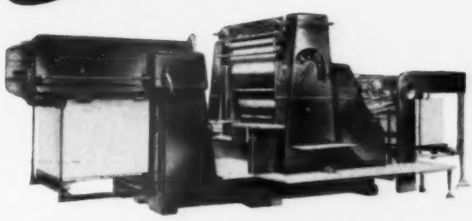
Outstanding Miehle Offsets



The Miehle 29 and 36

The Miehle 61 and 76





The Miehle 41 and 49

Outstanding for production...

High running speeds, quick changeover, easy washup, automatic lubrication, rugged construction, complete dependability.

Outstanding for versatility...

long runs or short runs, plain black and white or magnificent process color, on the widest possible range of stock.

Outstanding for quality...

true image printing with TRUE ROLLING* cylinders—no distortion or long printing; every line, dot and solid prints sharp and clear.

*U.S. Patent No. 2,036,835

a complete line

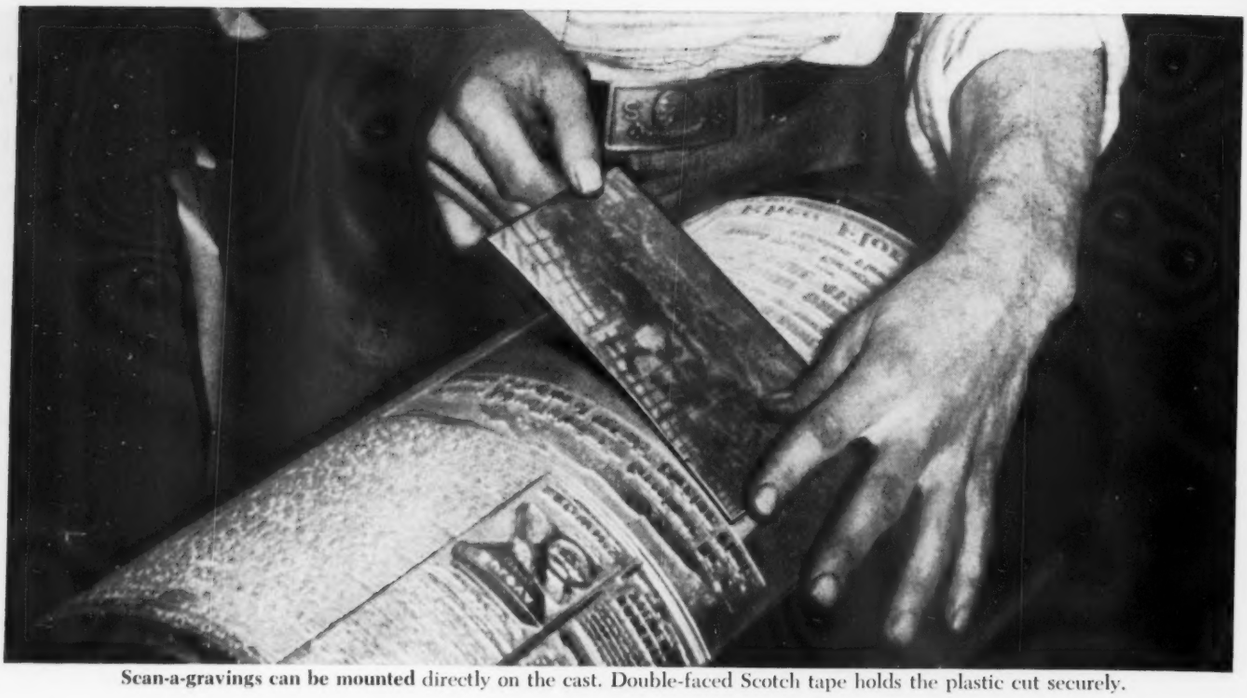
write today for complete information

PRESS	SHEET SIZE	SPEEDS UP TO
29 Single Color	23 x 29	7000
36 Single Color	23 x 36	6500
41 Single Color	30 x 42	6800
41 Two Color	30 x 39	6800
49 Single Color	36 x 49½	6500
49 Two Color	36 x 49½	6500
61 One to Six Color*	42 x 58	6500
76 One to Six Color*	52 x 76	6000

* *The Miehle 61 and 76 Offsets are built on the Unit Construction principle and are available as one, two, three, four, five and six color presses.*

MIEHLE PRINTING PRESS AND MANUFACTURING COMPANY

Chicago 6, Illinois



Scan-a-gravings can be mounted directly on the cast. Double-faced Scotch tape holds the plastic cut securely.

Direct printing from flexible Scan-a-gravings gives sparkling halftones. Late cuts don't hold up composing and stereo rooms

SCAN-A-GRAVINGS

improve reproduction quality

. . . cut presstime rush

Direct printing from Scan-a-gravings assures clean, sharp reproduction of editorial or advertising illustrations. None of the detail is lost in mats or stereos. These plastic cuts are mounted on the stereo just as they come from the Scan-a-graver.

Last minute presstime rushes because of late cuts are eliminated when you're using Scan-a-gravings. Mats are rolled with blanks in the page form, stereos are cast and then delivered to the pressroom in an even flow—rather than being held up waiting for cuts. When the cuts arrive from the Scan-a-graver they can be mounted on the stereo, right on the press if necessary.

When cuts are late, lock up forms with blank bases in position; Scan-a-gravings are easy to mount on stereos and give better reproduction.

● *Thousands of daily and weekly newspapers are now printing direct from Scan-a-gravings for better quality reproduction. Get the full story about the Scan-a-graver and learn how it can help solve some of your mechanical problems by writing today to Fairchild Camera and Instrument Corporation, Syosset, Long Island, New York, Department 100-77D.*

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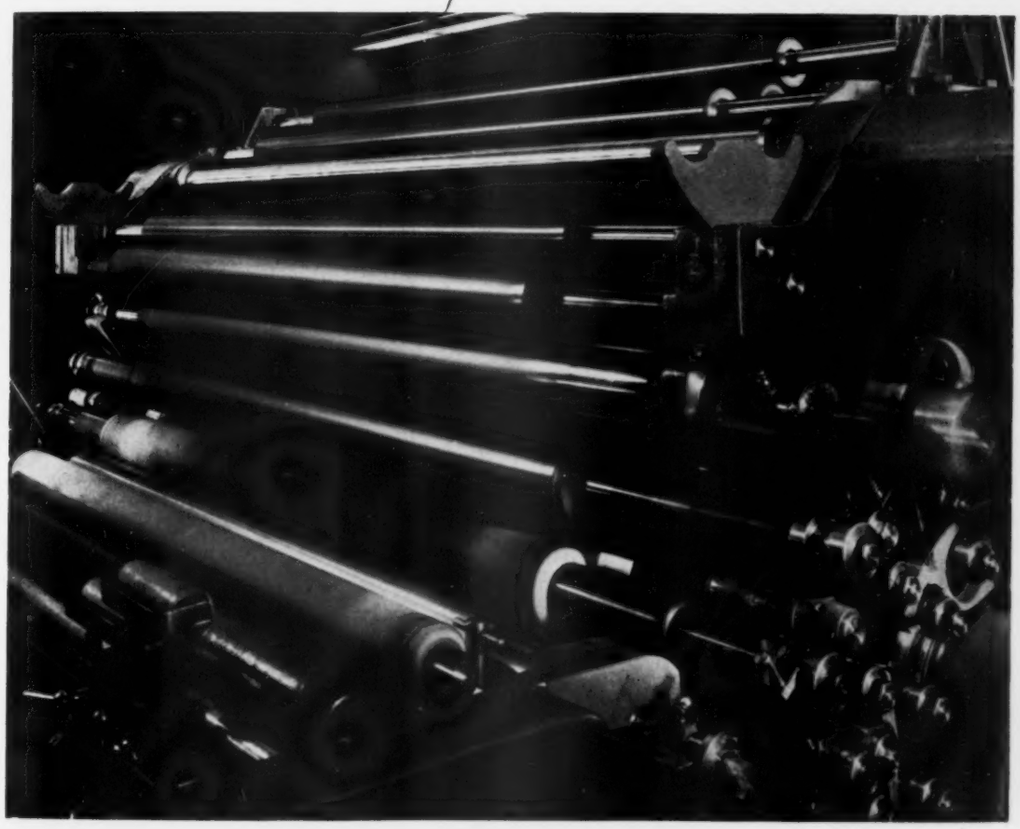
SCAN-A-GRAVER

THEY GO TOGETHER

fine Rollers, fine Presses, fine Presswork



New high speed presses, made with marvelous precision, are setting new standards of printing competition. To meet these standards, rollers must be equal in precision to the presses.

For over a century, SAM'L BINGHAM'S SON MFG. CO., has matched the improvement in presses by consistent improvement in rollers—Composition, Rubber and Vulcanized Oil.

Whatever your roller needs, for relatively slow or the newest high-speed multi-color presses, for offset, letterpress, aniline or rotogravure printing, it will pay you to send your rollers to one of Bingham's twenty conveniently located plants.

SAM'L BINGHAM'S SON MFG. CO.

MANUFACTURERS OF

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the Right Roller right away

CHICAGO	DALLAS	INDIANAPOLIS	MINNEAPOLIS	ST. LOUIS
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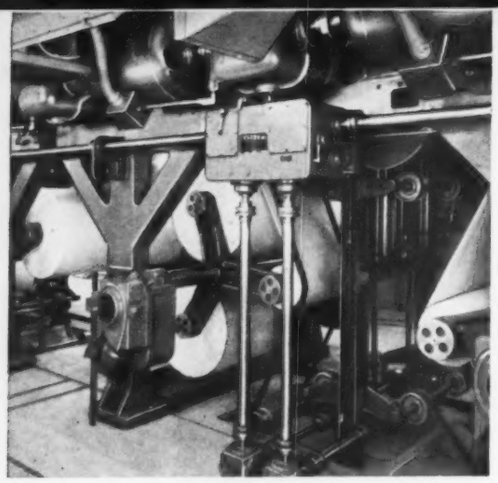
COMPOSITION . . . RUBBER . . . VULCANIZED OIL Rollers

For most efficient and

KEEP IT SIMPLE–KEEP IT STURDY-



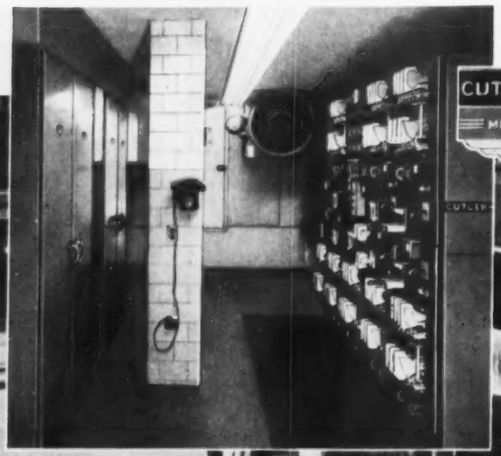
Cutler-Hammer Control for Unit Press Drive used on Goss Headliner Press in plant of **CANTON, OHIO, REPOSITORY**

This $600,000 seven unit installation has printing capacity of 45,000 copies of 56 pages per hour, an average delivery of 42,000 per hour. Space for expansion is provided at both ends. Color equipment is included.

You've seen it happen in your automobile. You *know* it is happening in the machines of industry. It is happening in newspaper presses too . . . the combination of more and more automatic functions into a given machine. You know too how desperately these press designers strive to simplify, simplify, simplify. The simplest possible means compatible with their ends is their goal.

It makes equal sense to seek out the simplest possible control of the simplest possible unit drive for this simplest possible press. And Cutler-Hammer Motor Control with a.c. wound rotor unit motors *is* the end of any such search.

This is a *paired* system . . . simple, sturdy, trouble-free unit a.c. wound rotor motors *paired* with Cutler-Hammer Unit Drive Control made up of simple, sturdy industrial type control components known to every plant electrician . . . and together giving you the fundamental needs. Easy inching and threading, smooth acceleration to maximum press running speed, perfect synchronization of motors, long life, freedom from trouble, flexibility . . . all these are yours together with specific Cutler-Hammer superiorities. There's the new



economical unit drives

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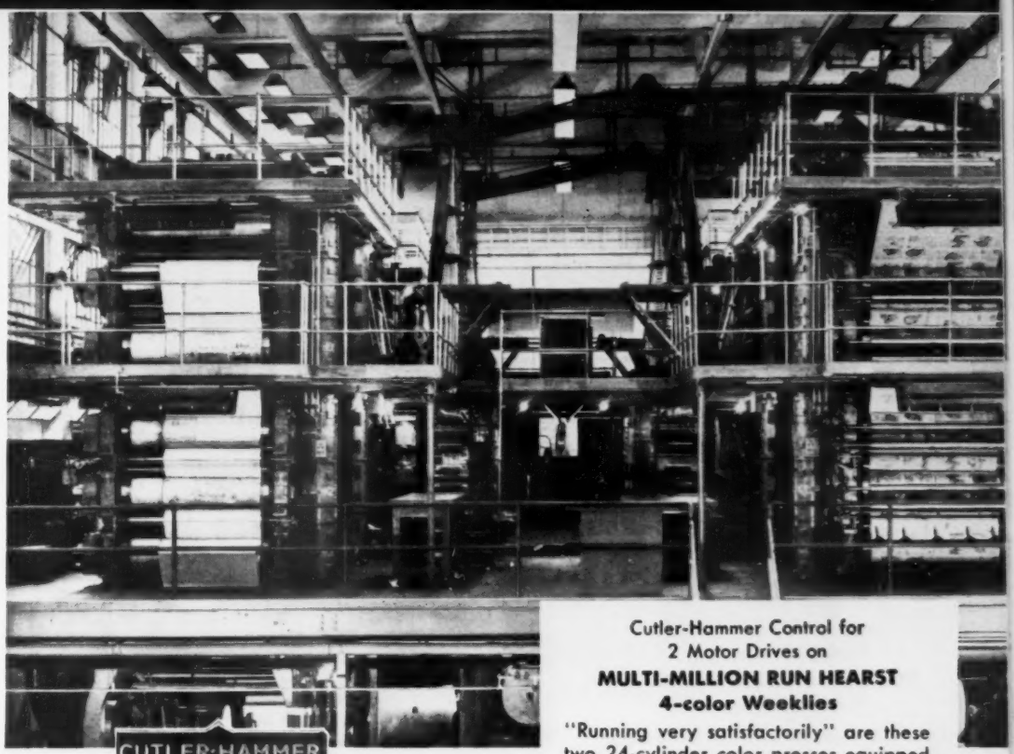
C-H cam drum accelerating device with 72 speed points. There's the fact that inching and threading *don't* draw current through the unit drive motors. There's freedom from troubles such as changing load adjusting resistor switches, unbalanced loads, circulating currents and excessive peaks. *And your own electrician can service this drive and can service this control.*

The Cutler-Hammer Representative has a dramatic and compelling story to tell. See him before you buy.

CUTLER-HAMMER, Inc., 1460 St. Paul Ave., Milwaukee 1, Wisconsin.



Cutler-Hammer Control for
2 Motor Drives on
MULTI-MILLION RUN HEARST 4-color Weeklies

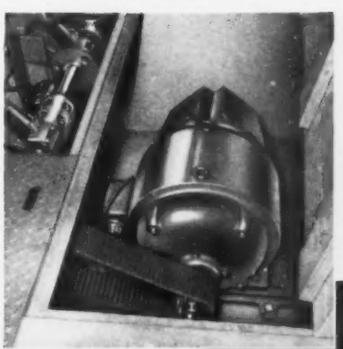
"Running very satisfactorily" are these two 24-cylinder color presses equipped with Cutler-Hammer Controlled Drives in the Hearst Color Plant at San Francisco. In addition there are four 24-cylinder presses identical with the above, in the Hearst plant in Chicago. Approximately 8½ Million copies of the Comic Puck Weekly are printed each week.

Cutler-Hammer Newspaper Conveyors

used in practically every conveyor-equipped plant in North America. Standard Duty handles up to 56 pages at any speed up to 60,000 I.P.H. Heavy Duty handles up to 96 pages at any speed up to 60,000 I.P.H.

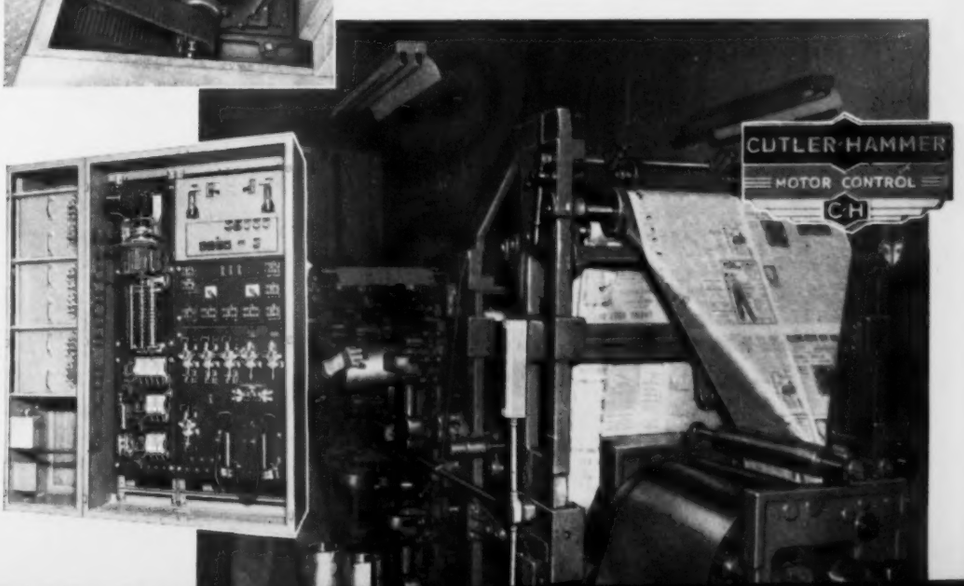
Cutler-Hammer Cylinder Brakes

Stop presses safely in approximately 3 seconds, completely relieving gearing of excessive forces and harmful shocks. Each brake individually adjustable yet automatically coordinated with other brakes.



Cutler-Hammer Electronic Control for single motor drive on Goss Dek-A-Tube press in plant of
MADISONVILLE, KY., MESSENGER

"The whole setup is running smoothly, and we are looking forward to many years of satisfactory operation," says Edgar Arnold Jr., Assistant Editor.



CUTLER·HAMMER
MOTOR CONTROL
C·H

Equipment & Supplies

(Continued from Page 18)

from an engraved cylinder on 0.0075 in. acetate film base, and is 0.005 in. per running ft. The grid is printed in black ink, with every tenth line broken. Sheets can be supplied both in clear and matte finish, cut to stock sizes, as well as in rolls up to 50 ft. long. The sheet width is 36 in. with working surface of 35 in. The film grid sheet is useful as a base planning graph for plant layout engineers, and for plotting or layout at large-scale templets. It can be written on with pen, pencil or crayon. In writing for further information, please state PEE No. 91.

Electronic Counter Booklet

A 12 page booklet of industrial electronic counters is available from the Electronic Products Div., Post Machinery Co. Sponsor states that any object capable of breaking a light beam may be tabulated by the Decitron Counters. The booklet includes descriptions and illustrations of various counter models designed for counting at different speeds. Preset counters are also described. Average counter size measures 8½ in. by 11 in. by 8 in. high. Copies of the booklet may be obtained by mentioning PEE No. 113 in your request.

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Rouse PRODUCTS
For absolute accuracy and extra profits, order Rouse time-saving equipment. Write for complete illustrated catalog—today!
No. 2 Band Saw
Slug Clippers
No. 40 Lead and Rule Cutter
Register Quoins
Hand Miterer
Economy Vertical Miterer
Composing Stick
Make-Up Rule
Line Gauge
Sennett Positive Assembler
Newspaper Wall File
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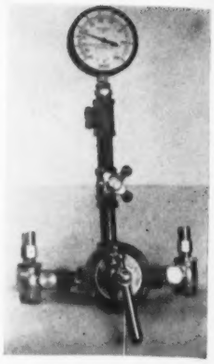
Press Seat
H. B. ROUSE AND COMPANY
2214 NO. WAYNE AVE. • CHICAGO 14, ILLINOIS
50 YEARS OF SERVICE TO THE PRINTING INDUSTRY

Thermostatic Water Mixing Valve — Lawler Automatic Controls, Inc., has reported a fully automatic temperature control water mixer for installation on plate whirlers. Known as the Whirltemp, sponsor claims it is set to deliver water at any desired temperature between cold and 115 deg. F. Failure of the cold water supply will cause the hot water seat to close, according to Lawler, removing any possibility of scalding.

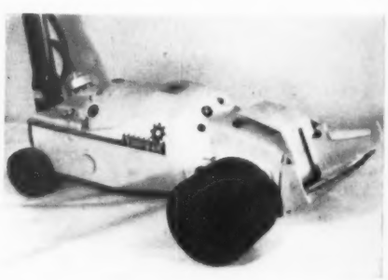


The etched dial plate on valve dome is marked for shut, cold, warm and hot positions. Above the mixing valve is the volume control valve which provides a means of controlling the amount of water used. At each inlet of the mixing valve is a loose key union angle stop and check valve with built-in removable sediment strainer. The stop and check valves serve the following purposes: the strainer prevents dirt from entering mixing valve; they prevent the hot or cold water from by-passing through the mixing valve if that should be left open and the volume control valve shut; and they provide means to shut the supplies to the mixer for cleaning or repairs.

The valve body is made of bronze. The thermostatic element is of the solid-filled liquid expansion bellows type which exerts hydraulic pressure directly on the stainless steel slide piston. Additional details may be obtained by mentioning PEE No. 109 in your request.

24 Volt Tug Bar

Western Gear Works announces a 24 v. d.c. version of Tug Bar, close-quarter material moving equipment. The Tug



Bar is small enough so that it can be operated wherever there is room for a man to stand. It is identical in appearance and size with the 110 v. a.c. model. Tug Bar weighs 110 lbs. and moves loads in excess of 2 T. Included in it is a reduction gear powered by either a.c. or d.c. type motors mounted on wide driving wheels. Operating controls are brought out to the adjustable handle attached to the unit. Please request PEE No. 93 when writing for additional information.

Molded Rubber Design Rollers

The advantages of using molded rubber design rollers for printing continuous all-

(Continued on Page 26)

ipi

COMP[illegible]INK SERVICE
FOR PRINTE[illegible]D LITHOGRAPHERS

HOLDFAST* HALFTONE BLACKS

They print clean, sharp; dry in 4 to 6 hours, faster with heat; available in non-scratch formulations, too.

GEMTONE* PROCESS COLORS

For sheet-fed presses. You get sparkling results because they dry fast on top of the sheet, look as bright when dry as they do when wet.

VAPORIN* HEAT-SET INKS

Used by over 200 publications on web presses. Hundreds of newspapers use IPI news inks in blacks or colors (R.O.P., Process, Comic)

EVERYDAY* PACKAGED INKS

You reduce your ink investment, yet you're ready for 9 jobs out of 10 . . . including the finest process work, black and white, and bond.

METALLIC INKS

IPI gold and silver inks are picked by printers for their finest, most exacting work. You'll find they give the results you want.

PRESS-TESTED* OFFSET INKS

Finest offset inks for paper lithography and tin printing. Blacker blacks and stronger colors — whites that don't burn out in tints. Ideal for high quality offset lithography.

LITHOGEM* OFFSET INKS

They dry faster, print sharper, the colors are brighter and stronger. Amazingly versatile, Lithogem inks give premium results.

LITHO SUPPLIES

IPI* has everything for lithographers—finest offset inks and complete line of litho supplies — IPI Tri-Metal Plates, blankets, textiles, chemicals, miscellaneous.

A COMPLETE INK SERVICE FROM COAST TO COAST

ANILOX* INKS

New, improved inks and coatings for aniline and anilox presses, give sharp, quality printing on all types of stocks—board, cellophane, foil, paper, plastic.

VAPOSET* MOISTURE-SET INKS

They set instantly with steam — and fast enough with natural moisture in stock for fabrication a few hours after printing. Odor-free, they are ideal for breadwraps, cups and all food packages, corrugated and fibre board.

CARTON AND CONTAINER INKS

IPI has inks for all carton and container work — inks that resist fading, scratching, rubbing and deteriorants. IPI Vaposet inks set fast on warm, moist, corrugated board.

VAPORIN* INKS

The original heat drying inks for coffee bags and similar package printing. They dry tough in seconds, print sharp and clean with extra finish and slip.

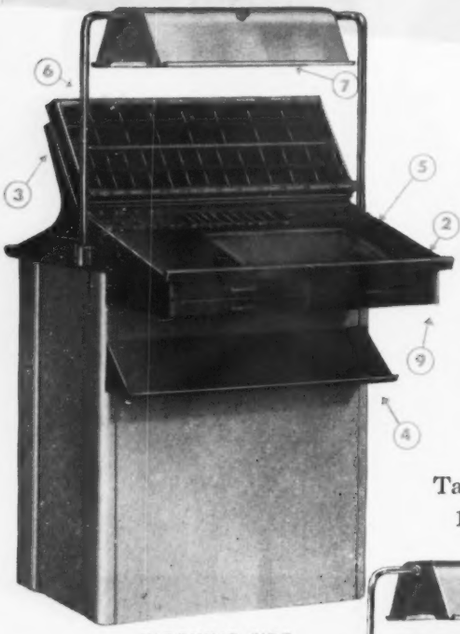
GEMTONE* PROCESS INKS

Tops for fine label work. They end dryback. Colors sparkle, dry fast, print sharp with extra snap for premium finish.

*TRADE-MARK OF INTERCHEMICAL CORPORATION

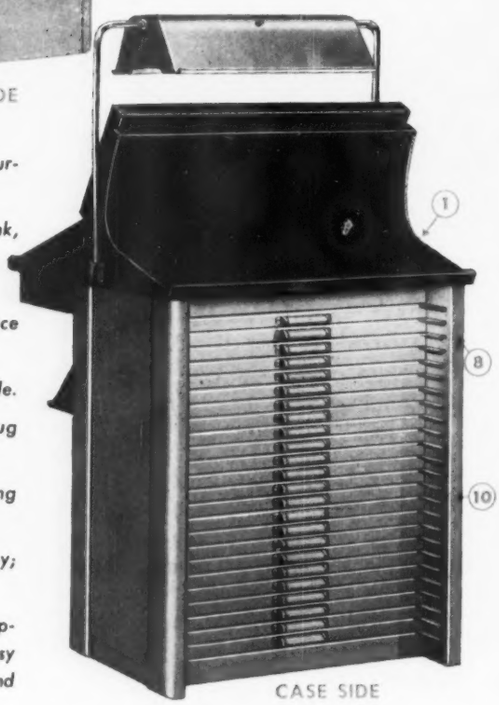
INTERCHEMICAL CORPORATION • Printing Ink Division
67 West 44th Street • New York City

Hamilton Type Cabinets pay off on *brains* — not brawn



WORKING SIDE

Cut waste motion and man-hour-consuming labor with Hamilton equipment! Every efficiency feature you can think of is *built-in—right at hand—where it's needed.* Skilled minds and hands—not legs—can function at top speed, for top profits! Take this Type Cabinet Model 101, for example—



CASE SIDE

1 and 2: *Generous working surfaces on both sides.*

3: *Commodious upper bank, sloped for easy-reach to any point.*

4: *Galley dump for convenience and neatness.*

5: *Spacing cases are removable.*

6: *Triple-depth lead and slug cases—adjustable.*

7 and 8: *Fluorescent lighting overhead and over-case.*

9: *One big drawer for copy; two for quarter-size cases.*

10: *4" extension front for support of extended cases and easy reading of combination pull and label holders.*

You ought to know more about Hamilton's entire line of peak-production equipment. Contact your Hamilton dealer or write us direct for more information.

PRINTING EQUIPMENT DIVISION

Hamilton

MANUFACTURING COMPANY

TWO RIVERS, WISCONSIN

Equipment & Supplies

(Continued from Page 24)

over patterns and multiple-unit jobs on rotary web presses are described in a four page, two-color bulletin released by Moss type Roller Co., Inc. Included are illustrations of various types of work which may be produced by these design rollers. They may be used for printing carbon papers, gift wraps, trademark papers, labels, wrappers, box coverings, folding cartons, etc. Part of the bulletin includes information on when to use design rollers. Please request PEE No. 96 if you desire a copy of the bulletin.

Line-operated pH Meter

Photovolt Corporation has reported development of a line-operated pH meter incorporating recent advances in elec-

tronic tubes and circuits. Sponsor states the Model 115 instrument is fully stabilized for a wide range of line voltage fluctuations. The 4 in. meter scale is provided with 140 division lines which permit readings to 0.05 pH from 0 to 14, continuous through neutral point without range switching. Instrument is furnished with fully-shielded Photovolt glass electrode and calomel electrode. A four page bulletin on the meter is available. Please request PEE No. 74 for further information.

Materials Handling Booklet

Materials handling and space saving equipment comprise the subject matter of a 28 page booklet prepared by Factory Service Co. Entitled the *Turner System of Materials Handling*, the booklet contains numerous illustrations of the individual equipment and installations of it in various plants. The Turner System is described as a standardized group of interchangeable and interlocking units which can be applied to most any industrial operation.

Advantages in the system claimed by the sponsor include coordination of steps in handling materials, provides mobility for all units, enables vertical and horizontal expansion, reduces storage problems and permits good housekeeping. Among the units shown in the booklet

(*Continued on Page 67*)

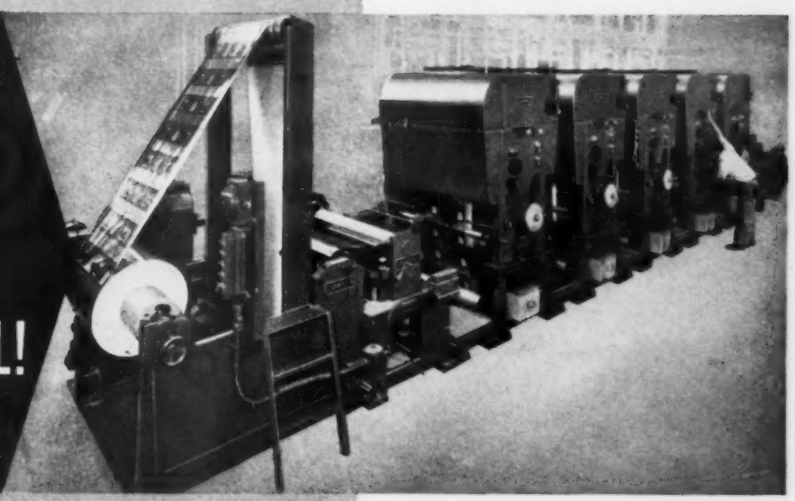
high-speed, high-volume printing and converting are simplified

. . . with this NEW Rotogravure Press with Rewind Delivery

the secret is

CENTRALIZED CONTROL!

All press equipment can be controlled from each color or control station. All controls are on the operator's side of the press. All running controls are FULLY AUTOMATIC



AUTOMATIC COMPREHENSIVE CONSTANT-TENSION CONTROL . . . from roll stand to delivery, hydraulically-actuated mechanisms maintain constant, *balanced* tension on all points of the continuous web.

AUTOMATIC ELECTRONIC RUNNING-REGISTER CONTROL OR MANUAL PUSH-BUTTON CONTROL . . . maintains precision printing register at all production speeds.

AUTOMATIC MAINTENANCE OF PRINTING PRESSURE — Hydraulic impression cylinders maintain, and return to, exact pre-set printing pressure.

The only adjustment required to operate press over full printing range is the Vernier setting of the variable speed pull tension control which:

1. ***Stabilizes web travel throughout printing section.***
2. ***Permits rewinding delivered rolls of ANY DESIRED DENSITY!***

Models	14"*	20"*	26"	36"	44"
Max. Print. Width	14"	20"	27"	36"	44"
Max. Web Width	15"	21"	28"	37"	45"
Min. Cyl. Circum.	9"	13"	17"	17"	17"
Max. Cyl. Circum.	18"	26"	34"	34"	34"

Production speed (with rewound roll delivery) on:	Speeds up to
Cellophane	500 feet per minute
Glassine, sulphite, light paper, paper-backed foil	600 feet per minute
Kraft and heavy paper and board	800 feet per minute

*14" and 20" models maintain printing pressure by electric push button control.

This precision-built *complete* rotogravure unit prints *most* stocks—from light films to heavy, rough papers and board—with impression pressures from 0 ("kiss") contact to 400 lb. per lineal inch. Precision-built for sensitive, delicate work, yet able to withstand heavy impressions, this unit will give more-than-satisfactory service for years with practically no maintenance. It will maintain accurate register and fidelity of reproduction—even with heaviest production schedules.

FULLY-AUTOMATIC RUNNING CONTROLS *PLUS* ALL THESE QUALITY FEATURES:

- Heavy duty unit drives maintain register with minimum control.
- Full retention of all tonal qualities in printing cylinder insured by full-range doctor blade adjustment, sensitive hydraulic impression adjustment, and uniform inking in the first quadrant of printing cylinder with secondary inking.
- Individual color unit dryers provide maximum area of web under dryers with minimum web leads.
- All printing units readily converted to back printing without turning bars.
- Equipment explosion-proof wired.

Write today for catalog of Champlain press equipment and full information on NEW Champlain Rotogravure Presses with Rewind Delivery. **Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago office: 520 N. Michigan Avenue, Chicago 11, Ill.** ⊛3308

Champlain &c

Champlain manufactures a complete line of roll-fed rotogravure, flexographic, letter press, cutting and creasing and allied equipment for packaging and specialty printing.

Mac- This is the best saw
I have seen - Let's go after
the old man to order some for
here - We need a Morrison
Slug Stripper, too.
- Al.
MORRISON SLUG STRIPPER

The New York Times has 17 Morrison Saw Trimmers and a Morrison Slug Stripper. This picture of part of New York Times' ad room shows practical arrangement of saws and make-up tables.

Morrison Saw Trimmers in your composing room, with a Morrison Slug Stripper, cut your ad composition time to a minimum.

The MORRISON SLUG STRIPPER "proves itself the first day" . . . Speeds up stripping the face of any slug or type character to exacting thickness for quick corrections in zincs, electros or shell stereotypes. Saves mortising of the base. Without special adjustments, the clamp holds any slug from one point to 72 points, or from a single character to 30 picas in length. A great time-saver in any composing room.

Other Morrison Equipment Includes: Saw Trimmers, Plate Bevelers, Router and Type-high Planer, Strip Material Cabinets, Waste Receptacles, Universal Saw Blades, Router Bits, and Jigsaw Blades.

Symbol of Operating Economy

THE MORRISON COMPANY

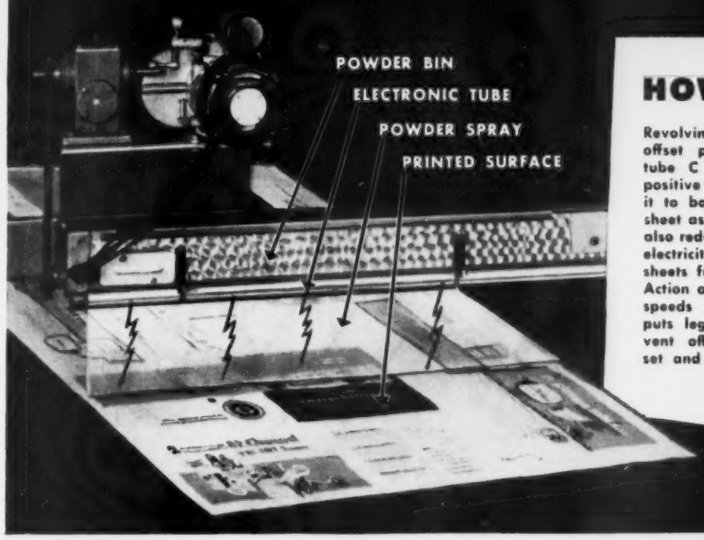
THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. MELVINA STREET • MILWAUKEE 12, WIS.

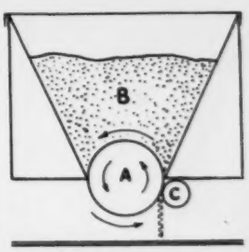
OXY-DRY

THE MOST EFFICIENT OFFSET PREVENTION METHOD



HOW OXY-DRY OPERATES

Revolving shaft A distributes anti-offset powder B past electronic tube C which gives 10,000 volt positive charge to powder causing it to bond instantly across entire sheet as it is delivered. This action also reduces negative charge (static electricity) in paper which frees sheets from sticking and jamming. Action of ozone emitted from tube speeds oxidation of ink, powder puts legs between sheets to prevent offset and permits inks to set and dry thoroughly.



Oxy-Dry Sprayer is fully protected by U. S. Patents

ONLY OXY-DRY GIVES YOU ALL THESE ADVANTAGES

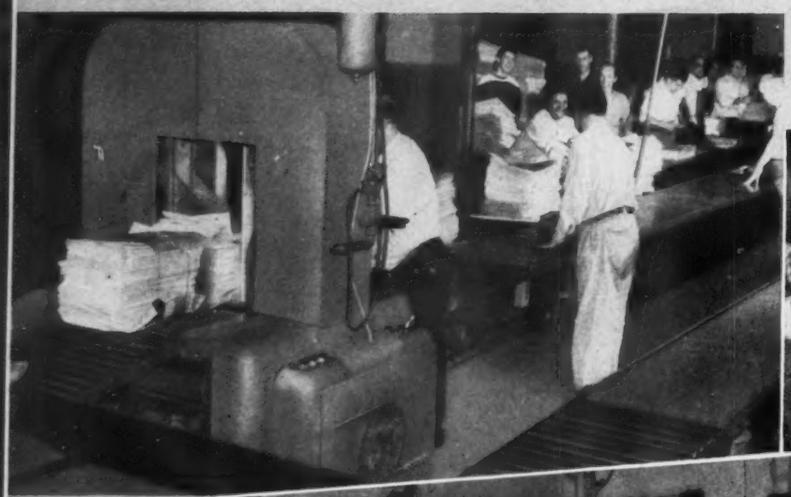
- **Uniform offset prevention on all types of work**
- **Positive powder control—with new micrometer speed adjustment**
- **Elimination of static electricity from sheets permits easy flow of work**
- **Fast drying of ink and uniform, full, free flowing loads**
- **Time and labor saved from cleaner, more efficient operation**
- **No dust hazard—powder is fully-endorsed health factor**

NEW

OXY-DRY rollers are now furnished with positive powder control etched surface. Eliminates "down-time" for costly labor time sanding, permits operation of sprayer for far longer time without service of any kind except to refill with OXY-DRY powder...one of a parade of improvements you can expect only from OXY-DRY research and development.

Wiretyer - Streamlines MAILROOM PRODUCTION at far less cost!

Fully Automatic



Wiretyer at work in various plants where speed and easy handling are essentials.

Wiretyer installations serving these well-known publishers:

Akron Beacon-Journal	Miami Herald
Danner Press	Milwaukee Journal
Florida Times-Union	Newark Evening News
New York Herald-Tribune	

FEW modern mechanical miracles are as impressive as ponderous, high-speed newspaper presses that turn out many thousands of complete newspapers in a matter of minutes.

Up to now, the problem of bundling this prodigious output and getting it promptly to waiting trucks has been a major bottleneck in newspaper mailrooms.

Now, Wiretyer equipment is serving newspapers across the country with unprecedented speed and economy of operation that amortizes its cost in just a few years.

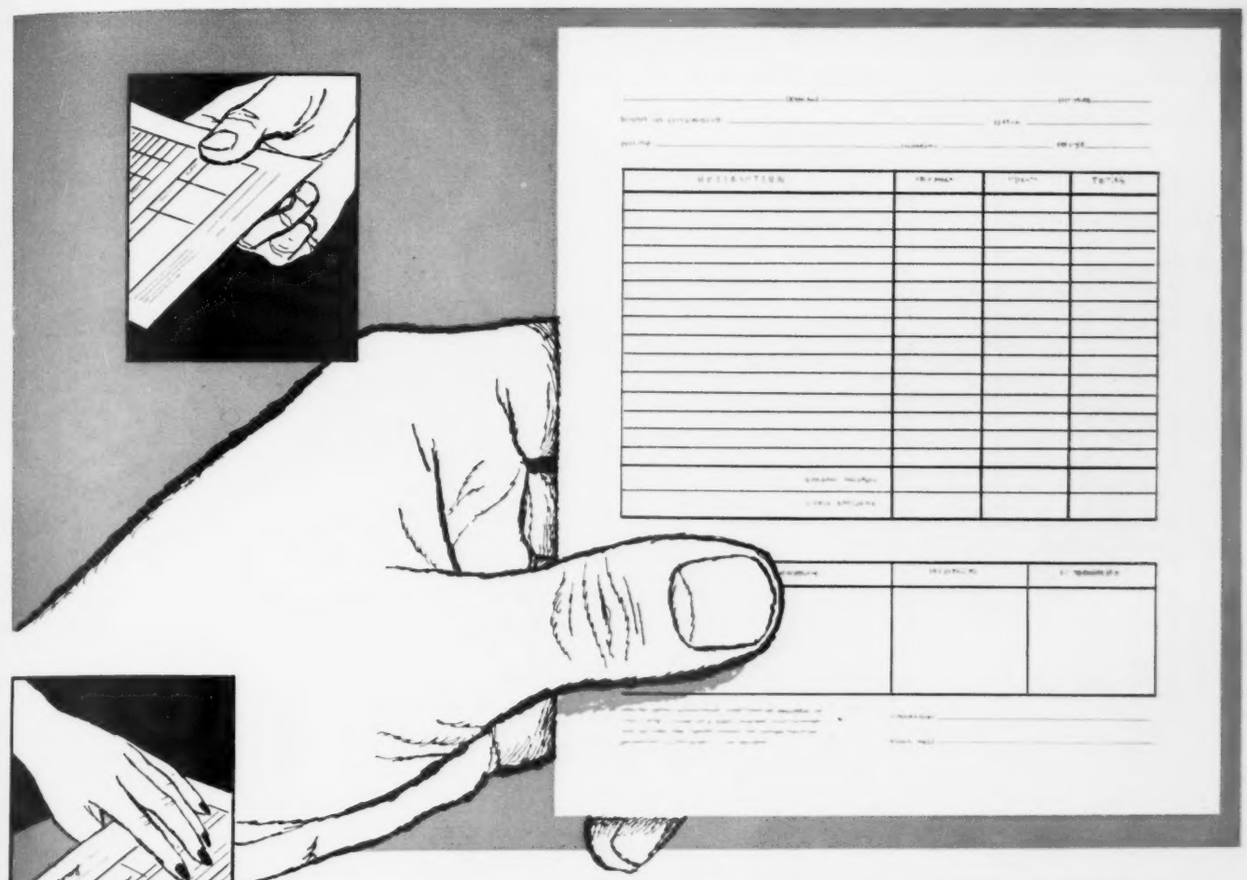
What this remarkable new development is accomplishing for newspapers and publications generally it can do with equal facility and flexibility in any industry having occasion to produce strong, pilfer-proof bundles of soft or hard goods, with speed and economy.

Write today for your copy of Wiretyer Bulletin 101. Until you examine the possibilities of this equipment, in its relationship to your business, you cannot possibly appreciate the remarkable advantages of this revolutionary development.

WIRETYER CORPORATION

6-33-5

230 WARBURTON AVENUE, HAWTHORNE, NEW JERSEY



The most MAN-HANDLED

(and woman-handled)

PAPER in the world!

Her hands, his hands—dainty hands, dirty hands—careful hands, hurried hands—a business form goes through them all. And frequently must survive to become a durable, legible record of a job completed!

MAXWELL BOND is specifically made with this handling-hazard in mind. In addition to printing attractively, and being suitable for every kind of business form used—it is sturdy and inexpensive! It's *tough* in service—*gentle* in cost.

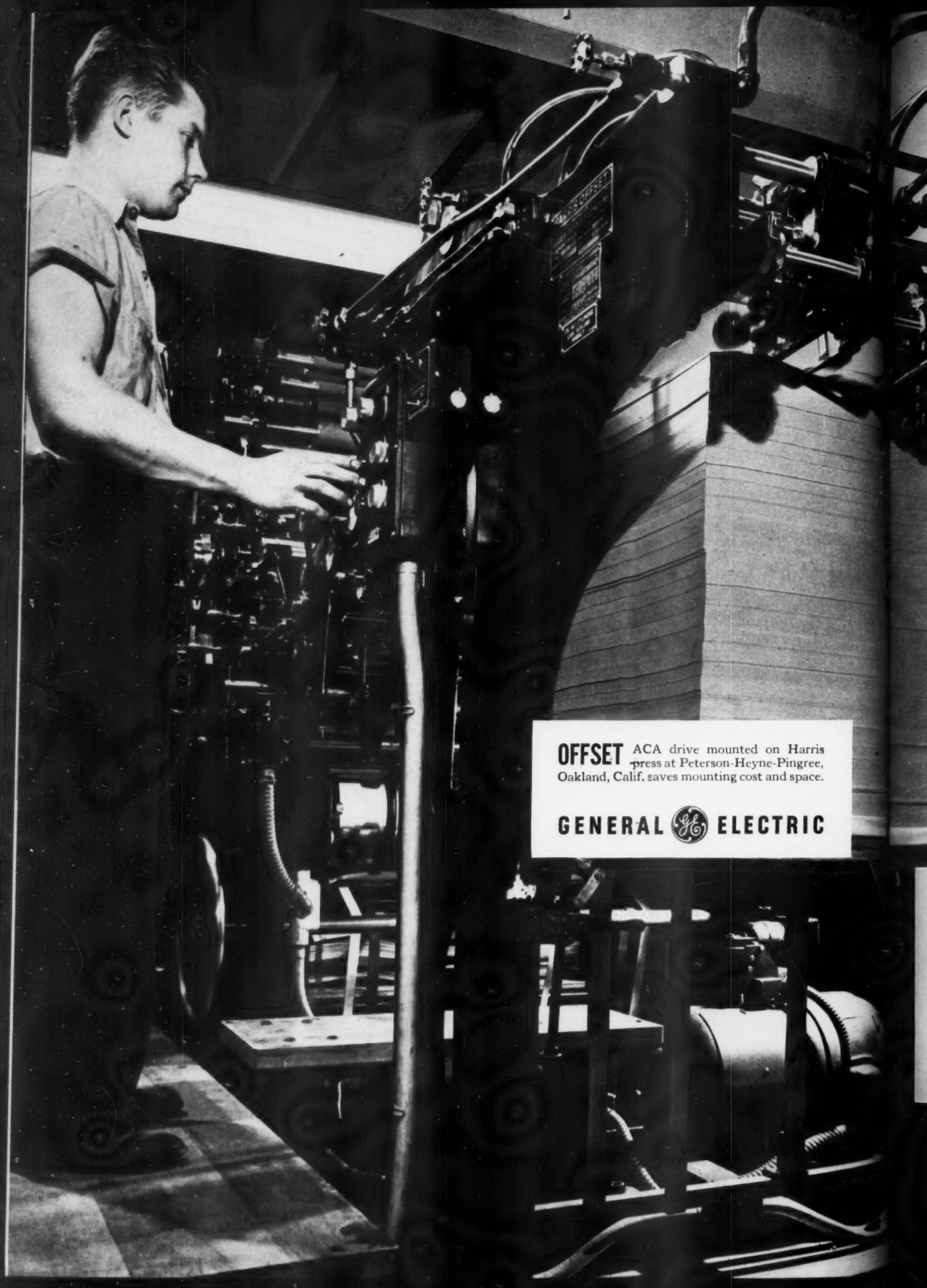
We'd be pleased to show you samples of MAXWELL BOND'S six colors, four weights and six finishes. Just send your letterhead.

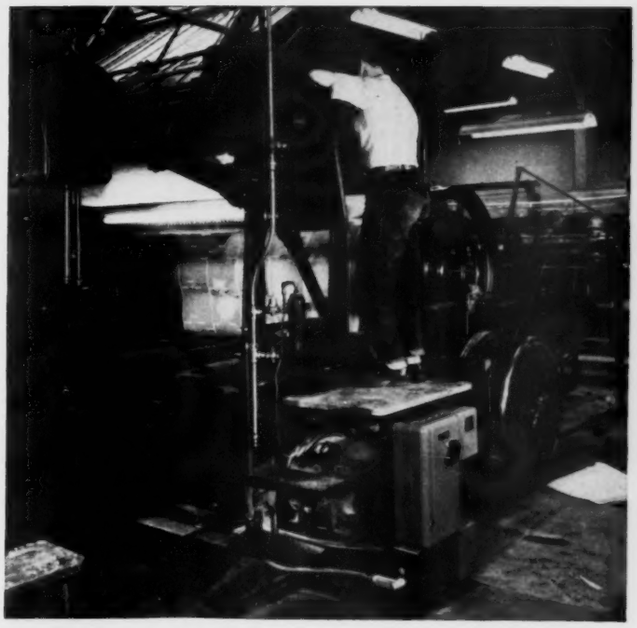
Our watermark proves our pride in this excellent business form bond. Try it.

Maxwell Bond

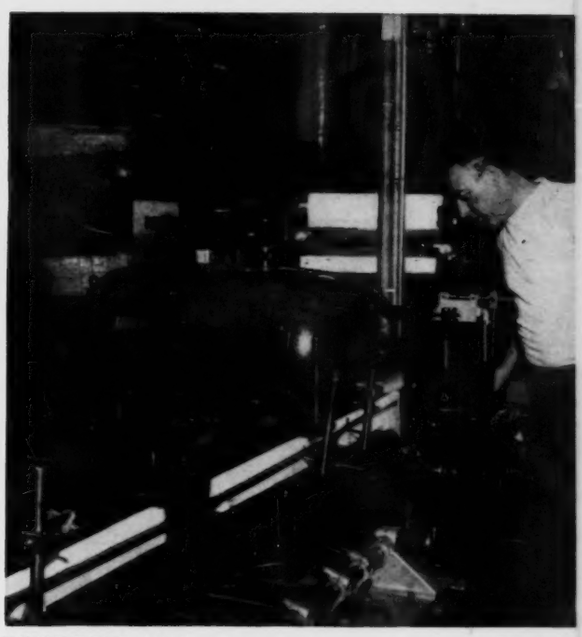
America's Favorite Low-Cost Bond

HOWARD PAPER MILLS, INC. • MAXWELL PAPER COMPANY DIVISION • FRANKLIN, OHIO


OFFSET ACA drive mounted on Harris press at Peterson-Heyne-Pingree, Oakland, Calif. saves mounting cost and space.
GENERAL ELECTRIC



LETTERPRESS ACA saves power—uses an average of 15% less power than comparable drives.



BINDERY ACA reduces maintenance—has no heat problem, few moving parts in control.

Cut cost-consuming production time with General Electric ACA press drive

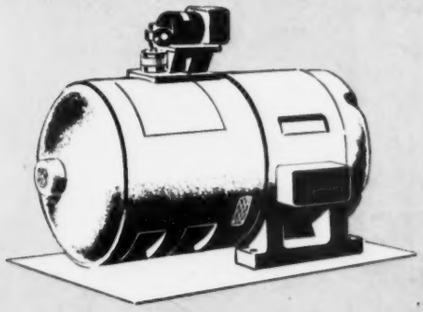
With adjustable speed direct from a-c power, G.E.'s ACA drive automatically accelerates your press to the speed you choose

Pre-set speed control on G.E.'s ACA drive helps you save production time by automatically bringing your press up to the speed you desire.

All your pressman does is select the speed he desires before pressing the START button. The press will automatically accelerate quickly and smoothly to the pre-set speed. In case of trouble, a trip lever is designed to bring the press down to idle. After clearing, pressing the START button will automatically return the press to its original speed.

Time lost during start-up and after clearing is kept to a minimum. The ACA allows you to select the speed desired from the wide range available, for any combination of ink and paper, before you start the press. Thus, you can use the highest operating speed consistent with good quality.

Like your press, your drive is a production tool, select it carefully. Specify a General Electric ACA press drive the next time you purchase printing equipment. For additional information, contact your nearest G-E Apparatus Sales Office, agent or distributor. Or write for Bulletin GEA-5568, General Electric Company, Section 653-32, Schenectady, N. Y.



- DC PERFORMANCE DIRECT FROM AC POWER
- TOP PRESS SPEED CONSISTENT WITH FINE PRESSWORK
- EASE OF INSTALLATION, OPERATION, MAINTENANCE

You can put your confidence in—

GENERAL ELECTRIC

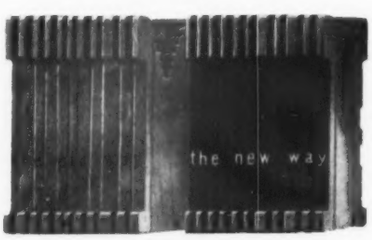
MATRIX CONTRAST SERVICE Sells on Sight

Linecasting machine operators are sold because they "see what they set" without eyestrain. Publishers and printers stay sold because Matrix Contrast eliminates 25% of all errors in linecasting machine composition.

Matrix Contrast Corporation has been in successful operation for over 25 years, and today services leading publications from coast-to-coast through 6 conveniently located service branches and 31 trained service crews. The Matrix Contrast method is the time-tested system of processing your matrices in Black and White or Colors in your plant without interrupting your regular production schedules.

REMEMBER,

that Matrix Contrast Service is the economical convenient plan to keep your linecasting matrix reference marks clean and highly visible.



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MATRIX CONTRAST SERVICE

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PRINTING
EQUIPMENT
Engineer
April 1954

Relative Humidity –

Its Control in the Pressroom

By T. H. REA*
**Sales Manager, Armstrong Machine Works, Three Rivers, Mich.*

ANY letterpress or offset sheet-fed printing plant that does not have humidity control and that produces two to four color process work can expect production difficulties as soon as the weather turns cold. In these great expectations of pressroom troubles the printer practically never is disappointed. As certain as death and taxes, cold weather brings: (1) Poor register; (2) Paper stock with wavy or tight edges and (3) Static electricity, necessitating slower press operation and aggravating offset.

Let us review the connection between cold outside air and pressroom troubles. Three factors are involved: (1) The indoor relative humidity drops sharply and varies with the outdoor temperature; (2) Paper is hygroscopic; it contains moisture and the amount of moisture varies with the relative humidity of the surrounding air, and (3) When the relative humidity goes below 50% static charges build up on the presses.

Causes of Wintertime Low Humidity in Pressrooms

The amount of moisture that air can hold depends upon temperature. Table I, Col. 2, shows the grains of water held by saturated air at temperatures from —20 deg. to + 80 deg. F. Note how slowly moisture holding capacity increases in the —20 to + 10 deg. range, and how rapidly the moisture holding capacity increases between 70 deg. F. and 80 deg. F.

Outdoor cold air will average 75% saturated or has a relative humidity (r.h.) of 75%. Let's see what happens to a cubic foot of this 75% r.h. and 0 deg. outdoor air when it is heated to 75 deg. F. with no moisture added: At 75 deg. F. the air can hold 9.48 grains. It had (Table I Col. 3) only 0.356 gr. to start with, and no moisture was added. So, 0.356÷ 9.448=3.8%—the theoretical relative humidity. For any outdoor temperature, Table I gives the theoretical indoor r.h. at 70 deg. F., 75 deg. F., and 80 deg. F. Start from the outdoor temperature and read to the right in the proper temperature column.

It is not uncommon for outdoor air temperature to range from, say + 10 deg. F. at night to + 40 deg. F. in the day time. This change can take place in just a few hours. If the pressroom is heated at 75 deg. F., this means a theoretical relative humidity change from 6.2 at + 10 deg. outdoors to 22.8 at + 40 deg. outdoors. Thus, when the outdoor air temperature is low, the indoor relative humidity is also low, and furthermore it varies widely.

In the preceding paragraphs we have referred to theoretical relative humidity. Actual humidities in a pressroom will not be as low as the theoretical, for the simple reason that air will be picking up moisture from any available source, chiefly from the paper stock in the pressroom itself.

Paper is Hygroscopic

Paper has the ability—or rather the liability—of taking on or giving off moismoisture. The amount of moisture in a sheet of paper depends upon the relative

TABLE I—EFFECT OF OUTDOOR TEMPERATURE ON INDOOR RELATIVE HUMIDITY

	Grains per Cu. Ft.		OUTSIDE AIR HAS RELATIVE HUMIDITY as shown below when heated to		
	100% Saturated	75% Saturated			
(1)	(2)	(3)	(4) 70°	(5) 75°	(6) 80°
—20	.166	.121	1.5%	1.3%	1.1%
—10	.284	.214	2.5	2.2	1.9
0	.475	.356	4.4	3.8	3.2
+10	.776	.583	7.2	6.2	5.3
+20	1.242	.933	11.6	9.9	8.4
+30	1.946	1.46	18.1	15.5	13.2
+40	2.863	2.15	26.8	22.7	19.5
+50	4.106	3.08	38.3	32.6	27.9
+60	5.795	4.34	54.0	46.0	39.4
+70	8.055	6.05	75.0	64.0	54.8
+75	9.448	7.08			
+80	11.04	8.29			

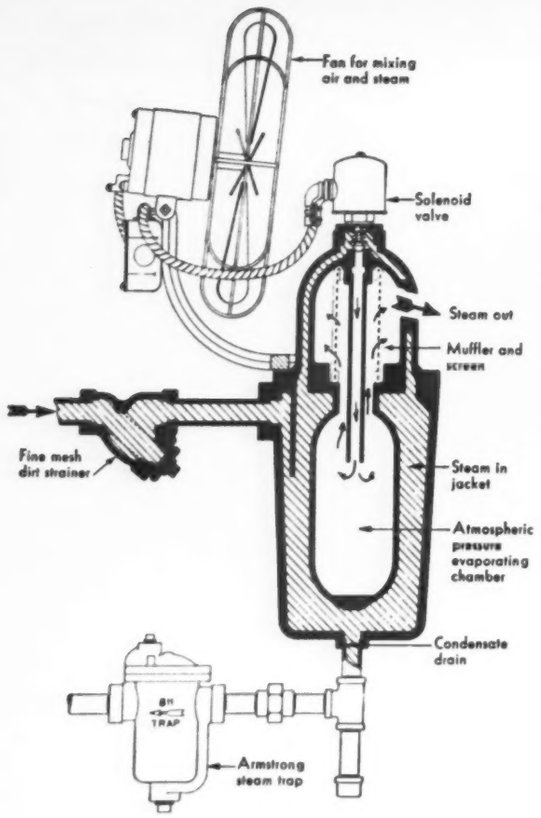


Fig 1.—Cross section diagram of Armstrong Steam Humidifier. These instruments usually are mounted approx. 10 ft. above floor level and in spaced relationship on a line according to humidifying requirements in the pressroom. They are automatic in action and can be adjusted to maintain desired relative humidity, usually from 40% to 50%.

humidity of the surrounding air. Increase the relative humidity and right away the paper absorbs moisture. Decrease the relative humidity and moisture leaves the sheet. When a sheet of paper neither gives off nor takes on moisture it is in balance with the relative humidity to which it is exposed.

Paper stock usually can be obtained with a moisture content that is substantially in balance with desirable pressroom relative humidity. Such paper stock will neither take on nor give off moisture when it is brought into the humidity controlled pressroom.

This giving off or taking on moisture actually changes the size of the paper. And these paper size changes are responsible for most off register printing.

Assume that the first press run is at 25% r. h., with a sheet size exactly 25 in. by 38 in. If the second run is made at 40% r. h. the sheet size will be larger and the work is bound to be out of register.

But sheet size change troubles are by no means limited to register difficulties. A pile of paper, drier than the surrounding air, will pick up moisture at the edges. The edges expand, causing waves which distort the print.

When the pile loses moisture to the air a "tight edge" or "bagginess" condition develops, which also distorts the print. Extreme cases of wavy edges or tight edges may even cause wrinkling on the press.

Static Electricity

The operation of a printing press and the handling of paper on the press develop static electricity. If the relative humidity is 50% or higher, the static is dissipated as fast as it forms by means of an invisible film of water which forms on the press and grounds the static. As the relative humidity goes below 50% the water film is lost and static charges build up until they interfere with sheet handling and aggravate offset.

Controlled Humidification Needed

The low relative humidities found in pressrooms during the heating season are directly responsible for pressroom operating difficulties—static on presses, poor register, offset, wavy edges and tight edges. At first glance the cure for such troubles appears to be simple—just add moisture to the air.

To keep the relative humidity above 50% would reduce static troubles. But sheet size troubles would remain if the humidity varied widely above the 50% level. The need for controlling the relative humidity is fully as great as the need for humidity itself.

The fact that humidity must be controlled rules out such expedients as sprinkling the floors, wet cloths on radiators, and opening the bleed valve on one or more radiators. To humidify a pressroom 100 ft. long and 60 ft. wide, with a 12 ft. ceiling, when outdoor temperature is 0 deg. F., indoor temperature 70 deg. F. and with two air changes per hr., would require some 76 lbs. of water per hr., or ⅗ of a qt. per min. Obviously, any makeshift humidification with control by hand is less than desirable.

Amount of Moisture Required for Humidification

The amount of moisture for humidification depends on: (1) The temperature outdoors; (2) The indoor temperature, and (3) The number of air changes per hour.

Humidifier installed capacity is usually based on an outdoor temperature of from 5 deg. to 10 deg. higher than the lowest temperature observed in the area in which the plant is located. The indoor temperature would be the wintertime pressroom temperature.

For the average small to medium pressroom, with two or more sides exposed, two changes are assumed per hour. Table II shows how much moisture is required per hour per 1000 cu. ft. of space, with two air changes, indoor and outdoor temperatures as shown.

How to Humidify

Pressroom controlled humidification can be obtained by installing the proper number of Water Spray or Steam Humidifiers, complete with controlling hygrostats for holding the relative humidity within close limits. Compared with benefits received, the cost of good humidification equipment is nominal.

Water Spray Units

A water spray humidifier produces a fine mist mechanically, or by means of compressed air. The heat from the surrounding air converts the mist to vapor which is very low pressure steam. The heat taken from the air to evaporate the mist will lower the dry bulb temperature. This is known as evaporative cooling.

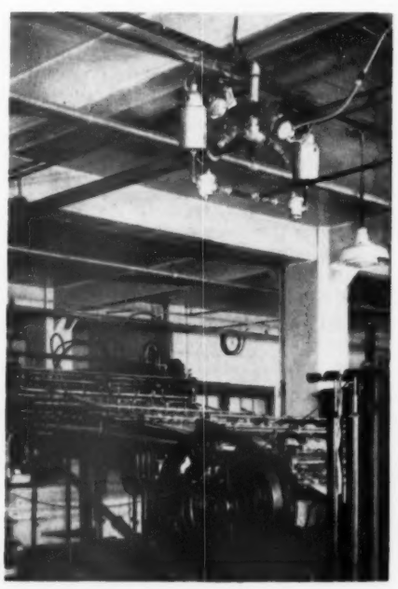


Fig. 2.—View of Armstrong Steam Humidifiers mounted in tandem in pressroom of Nazarene Pub. Co., Kansas City, Mo. In this particular installation, the humidifiers deliver steam at the elevated level at right angles to each other. The fans attached to the humidifier assembly assist in distributing the steam jets coming from the humidifiers.

Water spray humidifiers are exceptionally good for hot weather service in dry climates because of this cooling effect. In cold weather, however, this evaporative cooling puts an additional load on the existing radiation.

Steam Humidification

The moisture in the air actually is very low pressure steam. Since steam is wanted in the air, and since most pressrooms are steam heated, steam is a logical humidifying medium.

Merely to open a steam valve is not steam humidification. Such a procedure is objectionable because:

(1) Water is discharged along with the steam; (2) There is no control over the relative humidity; (3) An open steam blow is very noisy, and (4) The humidity would not be evenly distributed.

In Fig. *1* is shown a cross section diagram of a steam humidifier that has been successfully used by a large number of printing plants, furniture factories, leather plants, and paper fabricators for humidification during the heating season. This type of humidifier controls the humidity within close limits, and gives uniform distribution of humidity. When properly installed there is no drip and the noise of the escaping steam is muffled.

Dry Steam—No Drip

Steam at pressures of from 2 to 10 lbs. enters the humidifier through a fine mesh strainer. Any condensate that enters the humidifier drops to the bottom of the body and is discharged to the return line by the inverted bucket trap.

Control

When the controlling hygrostat calls for more moisture in the air it closes an electric circuit to energize the solenoid valve which admits steam to the atmospheric pressure evaporating chamber. If any water should be discharged through the solenoid valve, the water will remain at the bottom of the chamber, and will be boiled off because the temperature of the steam surrounding the chamber is above the boiling point for water at atmospheric pressure.

TABLE II—POUNDS OF MOISTURE PER 1000 CU. FT. SPACE, WITH 2 AIR CHANGES PER HR. TO OBTAIN 50% R. H.

Outdoor Temperature	WHEN AIR IS HEATED TO: 70°F.	75°F.	80°F.
—20	1.13	1.32	1.54
—10	1.09	1.29	1.52
0	1.05	1.25	1.48
+10	.98	1.18	1.41
+20	.88	1.08	1.31
+30	.74	.93	1.16
+40	.54	.74	.96
+50	.27	.47	.70
+60		.11	.34

Quiet

From the evaporating chamber steam passes through the muffler and out to the atmosphere. The muffler quiets the noise of the escaping steam. There can be no drip from the outlet because this, too, is at temperatures well above the boiling point.

Distribution

When the solenoid valve opens, the fan also starts, and mixes large quantities of air with the escaping steam. This prevents local over-humidification and gives even distribution of moisture.

Where it is practical to install the humidifier in the duct of an existing fan and duct heating system, or where the humidifier can be installed in parallel with a unit heater on which the fan operates continuously, no electric fan is required with the humidifier proper. Where operation at steam pressures from 10 lbs. to 35 lbs. is desirable, or when an explosion hazard exists, these humidifiers are available with compressed air control.

Depending upon the steam pressure, a small unit steam humidifier is able to humidify anywhere from 25,000 cu. ft. to 50,000 cu. ft. of pressroom space. For larger rooms multiple units are used, each with its controlling hygrostat. The spacing of multiple humidifying units is much like that of multiple unit heaters.

In some instances where steam was not used for heating, it has proved practical to install a low pressure heating boiler to supply the steam for automatic humidifiers. The cost of the boiler, piping and humidifying units at the Nazarene Publishing House, in Kansas City, Mo., proved to be economical in operation.

Recapitulation

To the unhumidified pressroom, cold weather brings low relative humidities which vary with the outside temperature. The low humidity causes trouble-making static accumulations on the presses. The changes in relative humidity produce changes in sheet size, wavy edges and tight edges. These sheet size changes, in turn, cause off-register printing.

Cold weather pressroom troubles can be eliminated by controlling the relative humidity at or slightly above the 50% level.

Walter A. Sittig

Walter A. Sittig recently completed 55 years' service as Secretary of H. B. Rouse & Co. Mr. Sittig has taken an active part in the design and manufacture of printers' products since the Rouse firm was founded in 1899.

As a young man, Mr. Sittig was working for his uncle when he met an inventor named H. B. Rouse. Rouse was trying to interest the uncle in a two-piece graduated composing stick which might be set to measure nonpareils and picas, a time-saver for printers over the cumbersome three-piece sticks then in use. Another Rouse invention was a lead and rule cutter which could be set to a given measure. Sittig borrowed some capital and thus began H. B. Rouse & Co. with Mr. Sittig as secretary. The firm still occupies the enlarged original plant on Chicago's Wayne Ave.

WALTER A. SITTIG

During the depression of the thirties, Sittig and his associates brought out a type mortiser which afforded protection for the operator. They claimed the mortised type would retain a normal appearance when used in combination with other type characters. Mr. Sittig also had a hand in other Rouse developments.

The Rouse plate saw, which was announced in 1950, was developed largely through the efforts of Mr. Sittig. It was claimed the saw would reduce finishing time of printing plates.

According to Paul D. Bezazian, Rouse's Account Executive of Burton, Browne Advertising, Mr. Sittig is not regarded among his associates as an old timer. Probably that is because his thinking is always current. The present and future interest him more than the past. When his unique 55-year record as Secretary of one company is mentioned, he retorts, "That's nothing unusual around here. One-third of the folks who work at Rouse have been with us for over 35 years; two-thirds for over a quarter of a century. We like it here."

The birthplace of Ottmar Mergenthaler in Hachtel, Western Germany, which has now been transformed into a museum in honor of the inventor of the Linotype.

Activities Honor 100th Anniversary of Mergenthaler

ARRANGEMENTS are being made in connection with plans for the observance on May 11, 1954, of the 100th anniversary of the birth of Ottmar Mergenthaler, inventor of the Linotype machine. In both Germany, the country of Mergenthaler's origin, and in the United States, tribute will be paid the inventor.

The festivities will include dedication on May 9 of the newly erected town hall and Mergenthaler Museum in Hachtel, Germany, the birthplace of the inventor. A special tour arranged for American printers and publishers by the German Educational Travel Assoc. has been scheduled to include a stopover in Hachtel for this event. The trip also includes a visit to the Intl. Printing and Paper Fair in Dusseldorf from May 15-30, where the Mergenthaler Centenary likewise will be observed.

Does Inventor's Portrait

Among other German tributes to the Linotype's inventor is the completion of a representative oil portrait by the portrait painter, Bernard Wichert. Meanwhile, Horst Kliemann, German publisher, has prepared a collection of material on the general subject of printing and literature which will be issued as part of the Mergenthaler anniversary program.

The Mergenthaler Linotype Co., in cooperation with the Linotype G.m.b.H., has prepared a festival book containing 72 pages of text and 30 pages of illustrations dealing with Ottmar Mergenthaler which will be distributed next Spring. It will be published both in English and German language editions. Another booklet entitled *Mergenthaler's Wonderful Machine* has been printed in Germany.

The committee for preservation of the Mergenthaler birthplace has broadcast an appeal for documents, letters and souvenirs connected with Ottmar Mergenthaler which private persons would like to turn over to the museum.

An artist's reproduction depicts Ottmar Mergenthaler demonstrating his machine to his first customer, Whitelaw Reid, editor of the New York *Tribune*, who is credited with naming it the Linotype.

Honored by Baltimore

Baltimore, the city where Mergenthaler lived and worked has also prepared a tribute in its new Mergenthaler Vocational Technical High School Bldg. Forty vocational courses, including those in the Graphic Arts, will be offered in the Mergenthaler school, which is designed to accommodate a min. of 2,000 boys and girls.

The Mergenthaler centennial will also mark the bestowal of the first Mergenthaler Awards for excellence in Latin American journalism. Mergenthaler Linotype Co. has contributed $62,500 toward the awards.

At the Mergenthaler Linotype factory, Brooklyn, N. Y., the pilot model of Linofilm phototypesetting machine is to be demonstrated publicly for the first time throughout the week of April 19. Members of both the American Newspaper Publishers Assoc. and the Intl. Typographic Composition Assoc., whose meetings in New York coincide with the Linofilm showing, will be among the major trade groups to view the demonstrations. In Germany the typefounders, D. Stempel AG, will honor Ottmar Mergenthaler with the creation of a new type face to be named Mergenthaler Antiqua.

TAGA Technical Papers

Technical papers on subjects ranging from better control of color to the production of long-run collotype plates will be presented at the Sixth Annual Technical Assoc. of the Graphic Arts meeting, May 10-11, in the Schroeder Hotel, Milwaukee, Wis. Included in the program will be papers containing descriptions of the use of radioisotopes for measuring the distribution of ink on rollers and the thickness of ink on storage drums. Color correction processes and color control procedures will be covered in several other papers, and two papers will contain problems associated with automatic electronic color scanners. Other papers will include press design, control of moisture in lithographic printing, the use of glass fibers for the production of paper, and a new development in xerography.

The modern Linotype linecasting machine still operates on the basic principles of Ottmar Mergenthaler's original machine.

Newspaper Color Printing Plays Prominent Part in Northwest Conference Talks

By HORACE ANNIS

MORE than 400 newspaper mechanical and production executives met recently in Minneapolis, Minn., for the 11th Annual Northwest Mechanical Conference. This year's meeting was under the direction of the following officers: President, John Copeland, Production Mgr., Minneapolis *Star* and *Tribune;* First Vice Pres., William Benson, Pressroom Foreman, St. Paul *Dispatch-Pioneer Press;* Second Vice Pres., Edward O'Neil, Pressroom Supt., Minneapolis *Star* and *Tribune;* and Secretary-Treasurer, Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute.

Features of the Conference included an informal meeting of the Twin Cities Linecasting Machinists Club, which was joined by out-of-town machinists, and a clinic on personnel problems. Officers of the Linecasting Machinists group are: President, George L. Curle, Machinist, Minneapolis *Star* and *Tribune;* Vice Pres., Nemo Wraggett, Head Machinist, Minneapolis *Star* and *Tribune;* and Secretary-Treasurer, John Skor, West Publishing Co., St. Paul, Minn.

Chairman of the Supplymen's Committee at the Conference was Russ Jensen of Ludlow Typograph Co. Committee members included Roy Gydesen, Sam'l Bingham's Son Mfg. Co.; Robert Ritten, Intertype Corporation; and Jack Stone, Geo. H. Morrill Co., Div. of Sun Chemical Corp.

Engraving Techniques Discussed

Presiding over the Photoengravers Clinic was Past Pres. A. E. Rosene, Mechanical Supt., Northwest Publications, Inc., assisted by Ebbie Jennison, Engraving Supt., Minneapolis *Star* and *Tribune*, and Ben Reisdorf, Engraver, St. Paul *Dispatch-Pioneer Press.*

A description of the Engrava-Plate machine was given by Ben Sugarman, President, Consolidated Photo Engravers and Lithographers Equipment Co., followed by a talk by Ira Hoffman, Eastman Kodak Co., on Eastman's Kodak Photo Resist. Winding up the discussions was a talk by Clayton Weber, LaCrosse (Wis.) *Tribune*, on *Modern Techniques in Newspaper Engraving.* Weber described the *Tribune's* method of direct printing and stressed the use of finer screens. He stated that magnesium plates had been used successfully, but that thin zinc is more satisfactory because it can be formed cold by hand. The engraving process, using a contrast screen and Rolup process, is extremely fast, he added, and the routing can be done in less than 2 min.

There was a short discussion of Dow Fast Etch by Pat Kearns, Rolled Plate Metal Co. The process is so fast, he said, that one bite etches down to 0.007 in. in 2½ min. Kearns also explained the etching machine designed by Dow Chemical Co. which travels across the etch area while rotating, a motion made necessary by the extremely hot etch which has nitric acid as its basic chemical with other chemicals added. He expressed the opinion that it would prove especially useful in book and catalog work, and should work well in connection with the Fotosetter phototypesetting machine.

Press-Stereo Problems

Charles R. McGuire, Mechanical Supt., Minneapolis *Star* and *Tribune*, presided over the Stereotype, Pressroom and Maintenance clinic assisted by Co-Chairman, Charles N. Bertram. The first speaker was Joe Goggin, President, Newspaper Publishers Supply Co., who spoke on the subject *Press and Stereotype Production.* He stressed the importance of the growing tendency toward ROP color printing and urged all pressmen and stereotypers to keep themselves abreast of these developments.

A question arose as to the most satisfactory auxiliary color fountains. Portable drip fountains with petcocks for use with any cylinder and the portable Taylor fountain were among the replies.

Are there advantages in packing out the head and the foot of the bolsters of stereotype mats instead of having the box support it? One executive advised it and added you are not so apt to blacken up the head and bottom of the page. Another said, where you want to go to extreme length with the page, there is less chance of losing a line if the mats are packed at the head and tail.

What methods are used for removnig scale from inside the casting box? Steel wool and oil are effective and muriatic acid and boiler compound.

Can loose fitting plates on the presses be prevented by the stereotype department? Any interference in cooling of the plate results in a loose fit.

Will higher tin content in stereotype metal result in a better plate? If you want longer press runs on plates, higher tin content is not the answer. If it is a question of wanting to slow the freezing time than add more tin. Either excessive tin or antimony in metal can cause trouble.

Do coated cork molding blankets give better performance than plain cork blankets? The consensus of opinion was that blankets will last a little longer and will not crack quite so fast if coated. Varnishing the edges of the mat is another way of holding the moisture in the mat.

What factors govern the drying time of the mats? Slow drying will shrink the mat the most. The more heat used the more danger there is of buckling.

ROP Color Use Increases

Lee Dahlberg, Color Coordinator, Minneapolis *Star* and *Tribune*, next discussed *Do's and Don'ts of ROP Color.* Dahlberg related that since 1950, color pages in the *Star* and *Tribune* jumped from 342 to 603 last year. He added: ". . . already for the first two months of 1954 we have nearly doubled the amount of color for the same period last year."

The speaker continued: "The selection and preparation of good color copy is an important first step. If pictures are to be used, only bright, sharp photos or transparencies should be considered. Avoid crowd scenes or subjects which have tiny detail. Stick to large, simple subjects wherever possible. If a single picture is to be used don't go smaller than 3 col. wide.

"Either color correct or avoid pictures that have subjects in the background or subjects around it that are similar color so that they won' run together and make the picture hard to see. The artist can control color by pre-separated acetate color blocks. The advantages of this pre-separated method are easier color correction, speed and economy. More and more ROP color is being produced by pre-separated methods for local advertisers and our news coverage."

Suggested Etching Depths

He maintained that color plates should be etched 0.005 in. in depth in the highlights and middletones. The accepted standard for line work is 0.020 in. with routed areas at 0.040 in. The dead metal

Northwest Conference officials pose informally for the camera. From left to right, Stereotype, Pressroom and Maintenance Machinists Clinic Chairman Charles McGuire, Mechanical Supt., Minneapolis *Star* and *Tribune;* Past President Charles Bertram, Pressroom Supt., St. Paul *Dispatch* and *Pioneer Press;* First Vice Pres. William Benson, Pressroom Foreman, St. Paul *Dispatch* and *Pioneer Press;* and Second Vice Pres. Edward O'Neil, Pressroom Supt., Minneapolis *Star* and *Tribune.*

These three executives discussed newspaper problems at the Northwest Mechanical Conference. From left to right, M. M. Oppegard, Publisher, Grand Forks (N. D.) *Herald;* A. E. Rosene, Mechanical Supt., Northwest Publications, Inc., St. Paul; and Archie Sovde, Richardson - Sovde, Inc., Minneapolis.

should be left on the plate to make it a solid unit.

The speaker cautioned that if the plates are flimsy because of large, open routed areas, it is easy to bump or bend these plates out of register. An adequate number of register marks should be placed on the color copy. Two are centered top and buttom outside the color work and four, usually inside the art work, one in each corner. Also be sure color plates are marked either front or back or both.

Dahlberg continued: "In the stereotype department they get a wide variety of materials from pre-baked mats to crazy, mixed-up zinc plates with no register marks and nothing to key to. This is where we get the saying: 'We can do anything but the impossible takes a little longer.' The best material to work with are original zinc or copper plates or electrotypes, all with rigister marks. Plastic plates for direct pressure molding are very satisfactory as well as baked mats ready for the casting box. The least desirable are mats for flat casting, especially on four-color work. They produce a poor printing plate and always present a chance of slight changes which will throw the whole job out of register. Copper plates should be nickeled to retain good printing qualities for long press runs.

"Ink, impression and register are all important for the best color results in the pressroom. When you are way out of register you've got 3-D. Impression is important to all printing but especially to four-color process plates, for without full impression sharp details tend to get a soft run-together appearance. This appearance is sometimes mistaken for too little ink, which leads to a muddy color if more ink is applied. Of course, too little ink cannot be corrected with more impression."

Experiment with Equipment

He counseled that experimentation is the only way to arrive at a perfect balance of your equipment. On matching color, he stated, ". . . during the press run the printed color guide should be compared under good lighting conditions. Incandescent light makes the color appear more reddish while flourescent light leans to the blue side. For a well-balanced light it is a good idea to consult an electrician.

"Proper ink setting is a very delicate operation. To aid the pressman, clean, strong inks are a must. This is even more evident in process work, especially where the picture is made of three primary colors. The final results of your color work will be gauged to a great extent by the strength of your inks. The heavier the pigment, the brighter the color and the less ink used."

Someone asked Mr. Dahlberg about the effect of light in checking color. Has anyone standardized light for presses so that the check would be the same on each press? Dahlberg replied that there would be a big difference from press to press unless all lighting was the same. He advised checking with a lighting expert and standardizing on lighting.

Pre-Made Ready Mats

The concluding speaker was Frank E. Reilly, President, Lake Shore Electrotype Div., Electrographic Corporation. His topic was *Pre-Made Ready Mats—Black and White and Color.*

Reilly advised that when possible, preprints of color ads should be made. Discover and correct problems before insertion he added. Elimination of hard edges inside or outside the neck and by additional makeready in the casting mat, changes of ink to match color progressives or adjustment in register are examples of ways to perfect a job. Detection of faulty materials is also made in this way. If pre-prints are not possible, the press plates should be cast and proofed in black and white for examination of tone values, screens, etc.

He continued: "Naturally we do not flat cast mats made for direct casting. They are apt to lose detail, be out of register and give a muddy appearance. Stronger ink with higher dye content will improve three-color process printing and when the blue must be depended upon to do what the black now does in four-color printing, improved quality will occur." The speaker claimed the Lake Shore Bista Pre-Made Ready Mat has resulted in a sharper color newspaper reproduction by keeping all tone values clean and sharp.

Recommends 3-Color Process

In conclusion, Mr. Reilly stated: "On three-color process ads of similar sizes where direct casting is a necessity, it is customary to place the ad in the lower right-hand corner of the mat. The newspaper can build editorial matter around it and do direct casting on the three-color process. We recommend three-color process on anything less than a full page ad where it must be combined with editorial. We predict that there will be a lightweight plate which will permit newspapers to run with a finer screen."

In answer to a question, Joe Goggin stated that a color mat, once dried, should be kept dry until cast. Once the water is taken out and it again accumulates water, the mat cannot be restored to the previous dry dimensions.

Participants in the Photoengraving Clinic held during the Northwest Mechanical Conference are shown from left to right as follows: Ben Reisdorf, Engraver, St. Paul *Dispatch* and *Pioneer Press;* Ebbie Jennison, Engraving Supt., Minneapolis *Star* and *Tribune;* Ben Sugarman, President, Consolidated Photo Engravers and Lithographers Equipment Co.; Clayton Weber, LaCrosse (Wis.) *Tribune;* Pat J. Kearns, Rolled Plate Metal Co.; and Ira J. Hoffman, Eastman Kodak Co.

Few ANPA Display Spaces Left

This year's exhibit of newspaper equipment and supplies at the ANPA Mechanical Conference in Atlantic City, N. J., promises to surpass previous shows in size and interest. More than 50 equipment manufacturers and suppliers will occupy the 100 display spaces at the Chalfonte-Haddon Hall Hotel, June 7-9. Included will be many recently developed and improved machines, devices and methods for reducing costs in newspaper mechanical operation. At press time it was reported that a limited number of exhibit booths are still available. Companies interested in obtaining space should contact immediately Printing Equipment Engineer, 1276 W. Third St., Cleveland 13, O.

Mail Rooms Described

The Mailing Room Clinic was presided over by John A. Breen, Mechanical Supt., Duluth (Minn.) *Herald* and *News Tribune*, assisted by Joseph Maven, Mail Room Supt., St. Paul (Minn.) *Pioneer Press-Dispatch*, and Joe Soderholm, Mail Room Supt., Minneapolis (Minn.) *Star* and *Tribune*.

Major features of the clinic were pictures of mailing rooms at the Sioux Falls (S. D.) *Argus Leader's* new plant, with commentary by Cletus Natz, Mail Room Foreman; the Duluth Newspapers' mailing room with John McCusker commenting; and sections of the Minneapolis *Star* and *Tribune* mailing room with commentary by Al Johnson, Mail Room Supt. There was also a color film of the Cutler-Hammer Counting and Stacking machine in operation at the Milwaukee (Wis.) *Journal* with commentary by A. H. James. Ted Morris, Des Moines (Ia.) *Register*, told of the development of a pusher attachment for the Parker tying machine which operates on 80 lbs. of air pressure.

What Advertisers Expect

The Composing Room Clinic was presided over by A. E. Rosene, assisted by Irving Sjoberg, Composing Room Foreman, St. Paul *Pioneer Press*, and Kenneth Way, Minneapolis *Star* and *Tribune*. Leading off the program was a discussion and color movies of the Intertype Fotosetter with Richard Wiley present to comment and answer questions.

This was followed by a talk by Lee Dubow, Advertising Mgr., Emporium Department Store, St. Paul, on *What the Advertiser Expects from the Composing Room*. Mr. Dubow urged fast proof service, accurate mark-up and composition and cooperation from the composing room in an effort to make ads better and more appealing. Proper use of type and definite type schedules were other ways of accomplishing this, he added. He urged that composing room foremen visit their advertisers and confer with them in an effort to effect this cooperation.

Final talk of this session was an address by Harry Eybers, Production Mgr., Washington (D. C.) *Post*, Mr. Eybers' talk appears elsewhere in this issue of *Printing Equipment Engineer*.

Classified Ad Rack

Mr. Rosene described a rack designed for handling classified ads before they are placed in the page. It provides space for classifying the ad on sheet steel racks each of which will hold 9 col. of type. When the makeup man commences work, he can move the type from the tilted rack into the page. This avoids searching for forms and eliminates the necessity of having several makeup trucks in the limited working space. It is estimated to save about 1 hr. every morning in making up classified ad pages. When not being used the racks are stored out of the way.

Apprentice Selection

At the final meeting of the Conference, Ralph Thornton, Personnel Director, Minneapolis *Star* and *Tribune*, discussed *Apprentice Selection — One Key to the Future of the Newspaper Crafts*. Mr. Thornton explained that with the numerous drafts and enlistments in the service of young men at the age when they formerly became apprentices, the problem of apprentice selection took on a new look at his plant.

He described the system used at the *Star* and *Tribune* as follows: "When an opening occurs, the department head calls personnel and gives the job specifications. Personnel then culls its files on persons who have previously applied, calls school placement bureaus and employment agencies or inserts a want ad in the classified section. From the applicants contacted, several are selected, interviewed, given tests and evaluated for the department head who then makes his own selection."

Mr. Thornton explained that the purpose of this is not to make it tougher for a young man to get into the newspaper crafts but to prevent him entering and wasting his time if he is unsuited for such work.

The tests given, he said, include the Kuder Preference Record, which measures interests in certain broad occupational areas, one of which is mechanical; Wonderlic Personnel Test, a 12 min. intelligence test for thinking aptitude and mental alertness; Minnesota Clerical Test, a speed and accuracy test measuring aptitude for recognizing and remembering small differences in names and numbers; Minnesota Paper Form Board, a mechanical aptitude test based on judgment of size and form of objects in mechanical drawings; and the Purdue Punchboard, a manual dexterity test.

Tests for Color

The speaker added that in view of the increasing work in color printing various color-discrimination tests are being studied by his department for the selection of future color printing workers. He pointed out that papers in the smaller cities and towns can avail themselves of a similar service through tests given without cost by the state employment service.

Such testing, he maintained, not only provides a superior grade of apprentice, but also gives the various departments a reserve of apprentice candidates not selected at that time from which can be drawn upon when needed. It also acts, he said, to raise the standards of the printing crafts. The *Star* and *Tribune* provides the new employee or anyone moving up to a key position a six-month *Know Your Newspaper* course of 12 sessions to familiarize them with the work of all departments and the policies of the company. This course, he said, has even become popular with men who have worked there for 10 or 15 years.

Conference Exhibits

Exhibitors at the conference included C. I. Johnson Mfg. Co., Consolidated Photo Engravers and Lithographers Equipment Co., Richardson-Sovde Co., Imperial Type Metal Co., Twin City Lino Service Co., Heidelberg Press, Alico, Inc., Baumfolder, Fairchild Camera and Instrument Corp., and Tingue, Brown & Co.

Printing Equipment Engineer Classified Ads may be found on Page 71.

A delegation from the Rochester (Minn.) ***Post-Bulletin*** attended the Northwest Mechanical Conference. From left to right are, Henry Buur, Pressman; G. S. Withers, Publisher, Robert Withers, son of the publisher; Dayton O. Davies, Composing Room; Robert Skar, jr., Composing Room; and Andrew Pedersen, Composing Room Foreman.

Machinists Quiz Composing Experts

THE Linecasting Machinists Clinic at the Northwest Mechanical Conference was presided over by Joseph Cory, Head Machinist, St. Paul *Dispatch-Pioneer Press*, and George Curle, Machinist, Minneapolis *Star* and *Tribune*. Features of the clinic were talks on *Proper Saw Adjustment* by a representative of Mohr Lino-Saw Co. and the *Star Quadder* by William Andreacci, Linotype Parts Co. Slides of Intertype equipment and developments, as well as 3-D slides of Linotype's wide range mixers, were also shown. The question and answer period was handled by a panel composed

Charter members of the Twin Cities Linecasting Machinists Club gather at a meeting of the group held during the Northwest Conference. From left to right, Nemo Wraggett, Head Machinist, Minneapolis *Star* and *Tribune;* George Curle, Machinist, Minneapolis *Star* and *Tribune;* and Joseph Cory, Head Machinist, St. Paul *Dispatch* and *Pioneer Press*.

of Walter Severin, Intertype Corporation; Bill Williams, Mergenthaler Linotype Co.; Mr. Andreacci; William Christmann, Mohr Lino-Saw Co.; Emil Proscovec, Ludlow Typograph Co.; Frank Phillips, Teletypesetter Corporation, and Nemo Wraggett, Head Machinist, Minneapolis *Star* and *Tribune*.

The question and answer period at the session brought out the following:

Q.—Our G-4 Intertype is bending space-bands on one-band lines. What's wrong?

A.—First, be sure the justification bar is cleaned of graphite every morning. If the justification bar is grooved it will stop the bending of space bands. In an old style bar the grooves cut about $\frac{1}{32}$ in. apart and not too deep.

Q.—What is the best method of restoring taper to jet holes in the pot mouthpiece?

A.—Years ago, tapering the holes with a jeweler's broach was advocated. The idea was that with the tapered holes the breakaway would be easy and the extra clearance would prevent metal gathering on the mouthpiece.

Q.—What causes the upper surface of matrix lower back lugs to become highly polished or slightly cut?

A.—Perhaps the stress of the justification levers is not relieved just before the mold disk backs away from the matrix line after the cast; parallel condition of mold grooves and first elevator jaws is not present; the first elevator jaw downstroke banking screw does not permit first elevator to seat low enough on the vise cap so that when the mold disk advances, the aligning rails chafe the upper surface of the lower back matrix lugs.

Matrix Sidewall Breakage

Q.—Will the closing of the vise jaws of the Intertype quadder cause breaking of matrix sidewalls?

A.—The closing of the vise jaws will not cause damage to sidewalls if the jaws are kept clean. If matrix sidewalls start to build up, of course sidewalls will be broken. If they do build up, there is something wrong with the lockup of the vise jaws. If the sidewall surfaces of the jaws remain clean, sidewalls will not be broken. Of course, if the justification stroke isn't right, or if the mold disk is advancing too far forward, or not far enough, metal will start building up on the vise jaws. It hardly seems necessary to state that the casting point on the spaceband sleeve must be kept clean at all times.

Q.—Please explain the proper procedure for adjusting a 72-90 channel (Model 31) distributor bar in proper position.

A.—Put large-face matrices with wide teeth on the bar. Adjust channel entrance so matrices will clear partitions when dropping, including clearance at the lower front distributor screw. Adjust bar vertically for a clearance of about 0.015 in. between bottom of the matrix and the channel entrance partitions. At that position you should have proper alignment of the bar with the distributor box rail. Ordinarily, you would set the distributor box rails with a gauge for height, but in some cases you may have to alter the height of the top surfaces of the distributor box rails to align with the distributor bar.

Q.—Is there any adjustment on the hydraulics of the new high speed Intertype? We have new machines and the delivery slide doesn't start fast enough to satisfy some of the operators. When we try to make it start faster it strikes the stop screw very hard when the slide reaches the push elevator jaws. Could we take out some of the oil to make it start over faster but smoothly?

A.—There is now an adjustment on new machines consisting of a small valve right in the plunger so that the speed can be controlled. Putting a lighter or heavier oil in the cylinder will also aid the control.

TTS Manuals

Q.—Why doesn't Teletypesetter put out a new instruction manual? The men who have attended the school have moved on to other jobs and maintenance is left to those with less experience.

A.—A new manual has been published. A trouble-shooting manual is being prepared which will help machinists. Some machinists have said they didn't get the latest bulletins. They have been mailed out and someone who can't use them doesn't pass them along to the men who need them.

Q.—Is there any way to modify the Morrison slug stripper holding clamp so that the slug won't twist as it is being cut?

A.—There is only one answer. Send the stripper head to the Morrison Company who will send you a replacement. One machinist said he sawed grooves in the head clamp and it now holds the slugs.

At the conclusion of the linecasting session, Fred M. Jernt explained his plastic linecasting development and exhibited samples of plastic slugs. His talk was brief. He explained that this development had been covered in the February 1954 issue of *Printing Equipment Engineer*.

Safety Workshop

Promoting Safety Through Human Relations is the theme of the third in a series of workshops sponsored by the Intl. Assoc. of Printing House Craftsmen, slated for April 15 in the Building Trades Club, 2 Park Ave., New York, New York. Keynote speaker of the session will be U. S. Public Printer Raymond Blattenberger. Other speakers will include Jack Wolff, Vice Pres., Western Printing & Litho Co., St. Louis, Mo., and Past Pres. of the Printing Industry of America, and Peter J. Bernard, Chairman of the Safety Committee, Intl. Assoc. of Printing House Craftsmen, General Chairman, Printing & Publishing Section, Natl. Safety Council, and Safety Director of H. Wolff Book Mfg. Co., New York, N. Y.

Four Heidelbergs Installed — Four 10 in. by 15 in. Heidelberg automatic platen presses were installed recently at Woodruff Printing Co., Lincoln, Neb., by the Kansas City office of Heidelberg Central, Inc. At work on the new presses in the Woodruff pressroom are (from left to right) Bob Lehl, John Hergert, Lee Knopp and George Horst.

Today's Foreman *needs changed outlook over hard-hitting, tobacco chewing newspaper supervisor of yesteryear.*

By HARRY EYBERS*

*Production Mgr., Washington (D. C.) *Post*. Paper delivered before Northwest Mechanical Conference, Minneapolis, Minn., February 1954.

IT IS MY OPINION that the problems on the small paper are just the same as they are on the big paper, in fact, the guy on the small paper has more of them than the one on the big paper. With the new methods of advertising that have come into the picture in the last few years and the ever-increasing cost of producing a newspaper, the men in charge of the mechanical departments are in a tough spot.

It is very disturbing to me when discussing high production costs with groups of mechanical people to hear it suggested that we continue to pass these costs on to advertisers and subscribers. This is the easy and lazy way to solve the problem. Remember, there is a saturation point and I am afraid we have nearly reached that point. Each time we raise advertising rates we price ourselves out of a market.

I know there are a large number in the audience who are thinking right now: "This guy is nuts!" We are running larger papers, carrying more advertising and have larger circulations than ever before in history, so how can conditions be that serious? But I also am sure there are a large number of you who get the cost figures and know I am right.

Fights for Survival

Newspapers should not have to carry as much advertising as they do to stay in the black ink. The margin of profit is too small for what has to be done to earn it. The ice is getting too thin. So I say, in a sense, we are fighting for our own survival.

My observation after more than 30 years in the business has been that only in the last few years, since production costs have gone out of sight, has management paid much attention to the mechanical departments. Many departments are forced to operate with old, worn out, out-dated equipment. Management has allowed other departments to pass costs on to the mechanical departments where cost is the greatest. Mechanical departments are also forced to operate under wasteful conditions because of competitive newspapers or situations.

Still in Pick-and-Shovel Days

It is apparent to me that equipment and supply manufacturers have not kept pace with manufacturers in other industries. In other industries, one would hardly recognize the equipment and supplies compared to those of 10 or 15 years ago. It has been many years since highways were built with a pick and shovel. yet, in a sense, we are still producing a newspaper very much as in the pick-and shovel days. I am sure you will agree there are few other industries where a man could have retired 20 years ago and upon returning today, outside of being a little rusty, hold down a job as he could in present-day composing rooms. This certainly ought to prove we have made very few radical changes in this business of ours.

I know you will think you are sitting in the boss' office when you hear what I am going to say. The biggest item of producing a newspaper is newsprint, so that has been the main point of attack the last few years. As a result, many papers have reduced their newsprint roll width to save paper.

Because I believe we are all very near the limit on possible savings by reducing newsprint width, it is just about a cinch that the next target will be composing room costs. This is the reason I have picked out as the title for my talk, *Today's Composing Room Foremen*. The finger is really pointed at this guy and justly so because, next to newsprint, the composing room is now the most costly unit required in producing today's paper.

Foremen Picked for Toughness

Years ago, the qualifications for a composing room foreman were certainly different from today's requirements. In the old days a foreman was usually picked because he was a tough guy. I say this half jokingly, but I am partly serious when I say a foreman was picked if he could hit a cuspidor at 6 ft. or kill a pint of whiskey at the end of a shift without batting an eye.

The duties of a foreman, regardless of the size of the shop, were entirely different from what they are today. He was dealing with a different type of printer than we have today. The country then was filled with tramp printers, good ones, but tough to handle. The major portion of the composition was done by hand. There was a limited amount of machinery so the foreman did not have many mechanical worries.

There were no do's and don'ts and very few can'ts. The foreman was lord and master of his room and ran it to suit himself. I don't think it was good and I wouldn't like to see conditions like that come back, but nevertheless, those were the conditions of that time. There were always plenty of printers around because men traveled and hit the seasonal business in the different parts of the country. A foreman could get by with almost anything and be as tough as he wished, because the men knew there were always printers to take their places.

Today's Foreman

Today, we need a different type of composing room foreman. Instead of being a tough, two-fisted, hard-drinking, tobacco-chewing man, the present day composing room foreman of a newspaper must be the combination of a good, all-around printer, with a good knowledge of machinery, a student of union law, an expert at employee relations, a cost accountant and a psychologist—all rolled into one. To be a successful composing room foreman today, you have to be pretty good in all these matters.

In my opinion, one of the most important qualifications is ability to promote good employee relations. This can do a great deal for you in reducing costs. Most important is the ability to say yes or no. I am sure you will agree that there are only a few men you have worked with who had the ability to say yes or no and still leave you in a happy frame of mind. Unfortunately, this faculty of knowing how to say yes or no is something you are either born with or have to work hard to acquire. I have seen many expert tradesmen fail as foremen because they lack this quality.

(*Continued on Page 48*)

BPA Audit Now Provides Complete Circulation Coverage

For many years, *Printing Equipment Engineer* was a member of and has been identified with Controlled Circulation Audit, Inc. Recently, however, to more completely provide for audit of both gratis and paid circulation, the name of Controlled Circulation Audit, Inc., has been changed to Business Publications Audit of Circulation, Inc. A total of 365 business publications and 193 advertisers and agencies are represented in BPA's membership.

Under the new policy set up by BPA, both unpaid and paid circulation will be audited separately and combined reports will be made at regular audit periods to interested companies and advertisers. Thus, the BPA audit reports will reflect the true total circulation of BPA publications—both unpaid and paid.

As is the case with many organizations, the very nature of their objectives change with the passing of time. In the case of CCA publications, there has been a gradual shift from complete gratis circulation to a combined unpaid and paid circulation. In this respect, BPA member publications feel that the advertiser will not only benefit from controlled (unpaid) circulation as heretofore, but will also have before him in official audit reports the amount and extent of paid circulation coverage.

The ABC of OFFSET

For Letterpress Printers

Series Two

By George Jos. Lenzer

XX—DOT ETCHERS MUST THINK

FOR greatest efficiency in meeting production schedules, the thinking of the dot etcher is important. How he thinks is dependent upon his training and realization of his importance in the scheme of things. In addition to acquired knowledge of his specialized work, he must have some acquaintance with many unrelated, yet associated, facts, trades and crafts.

To foresee and anticipate the requirements, needs and possible difficulties to be encountered by the layout man, stripper, platemaker and pressman, he must be capable of judging negatives and positives correctly, and he must possess the ability to direct, recommend or effect changes or alterations while a job is in production, whenever required.

It could be assumed that the dot etcher's thinking should stop here. This assumption is correct only so far as his job is affected by limitations and prescribed functional procedure. Whenever his work is affected by extraneous demands or requirements, the assumption is wrong. Then, the dot etcher's thinking and know-how must be expanded to enable him to meet the extraneous challenge and demands.

Where a piece of art work is to be reproduced at the same size, no expansion of the artist's thinking is required because of the limitations imposed by a definite size.

His thinking must change however when a piece of art is to be reproduced in more than one definite size, and must be enlarged or reduced to other than a same size reproduction. In offset work this is a frequent occurrence, where in advertising a single piece of artwork is reproduced in sizes from a poster stamp, through small blotters, different sized mailing pieces, calendars, counter and window displays, packages and on up to 24 sheet outdoor posters.

"You Worked on this Job"

These five simple words, "You worked on this job", to the dot etcher or correctionist take on several meanings. They may be accusative, derogatory, depreciatory, but rarely laudatory.

Reason for this is that the dot etcher or correctionist is the hub around which most other operations revolve. He alone is generally held responsible for the outcome of a job and is expected to effect facsimile reproductions of one kind of art, or to produce million dollar effects from two-bit art work.

In most instances the artist or dot etcher never sees the art work until it reaches him with the negatives or positives upon which he must work. He cannot refuse or reject the job, nor can he demand better reproduction copy.

By reason of the fact that all other productive operations in offset are repetitive or mechanical in nature, the workmen performing those operations are generally absolved of any responsibility for the kind of work produced.

No matter what the reason or where difficulties arise to ruin or spoil a job, be it in photographing, stripping, platemaking or poor pressmanship, all fingers point to the dot etcher and those five ominous words are hurled at him, "You worked on this job". He is seldom given credit or praise for a job well done, but, when a job turns sour, he is blamed for the failure. That's why the dot etcher or correctionist must think.

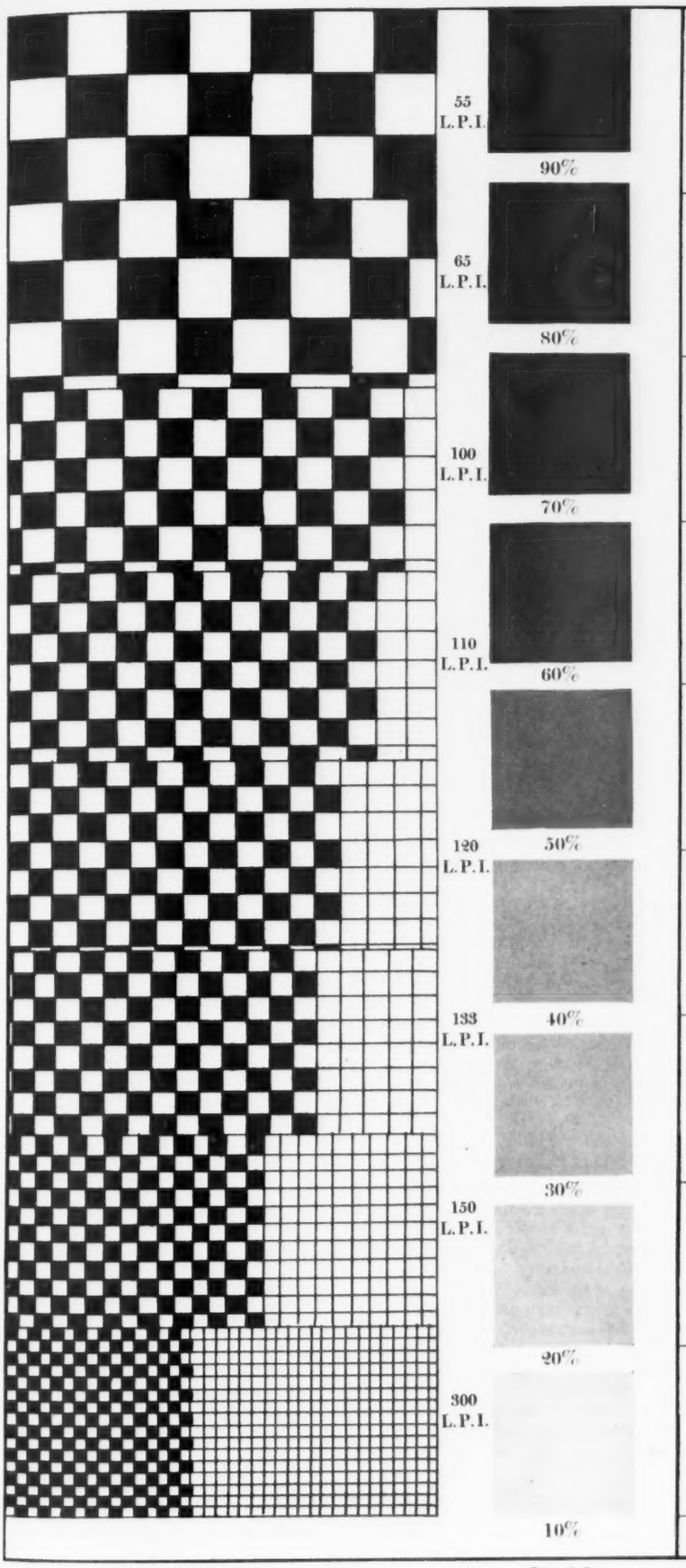
"Are You Blind or Something?"

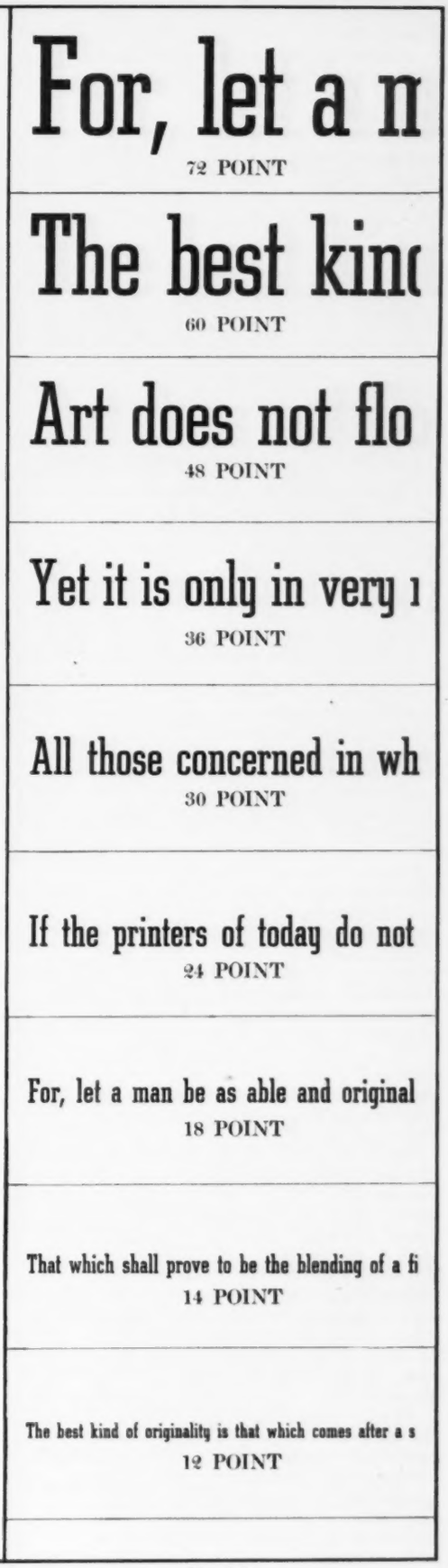
The question, "Are you blind or something?", is frequently tossed at the dot etcher who in good faith has strived to retain the same color values in reproductions of copy, when the reproductions

Fig. 12.—COMPARATIVE CONSTANTS EFFECTING TONAL GRADATIONS IN REPRODUCTIONS

COMPARATIVE CONSTANTS EFFECTING TONAL GRADATIONS IN REPRODUCTIONS

	UNIFORMITY IN	
PANEL 1 Halftone Chart	PANEL 2 Grey Scale	PANEL 3 Reading Chart
50% Tint Tint Pattern	Screen Ruling 133 Dot Count per Sq. In.	Type Face Character design
	Progressive Reduction	
In dot size	In dot size, per tint	In type size
	Variations In	
Screen rulings— Lines per sq. in. Dot size Tonal gradation Color contrast Dot count per sq. in. Image detail	Tint patterns Dot shape Tonal gradation Color contrast Tone percentage Image detail	Legibility Character shape Tonal gradation Color contrast Type characters per line Character designation
	Tone Gradations Are Proportional	
Regressive Superficial	Progressive Geometrical	Successive Mechanical
	Effects Are	
Sensual Negative	Optical Positive	Visual Subjective
	Purposes Are For	
Necessity	Reference	Convenience
	Viewing Distance Affects	
Color values Dot size Detail	Color values Dot size Detail	Color values Type size Readability
	Printability By Offset (Depending upon nature of material)	
150 to 55 l.p.i. Good to excellent 150 to 300 l.p.i. Difficult to impossible	150 to 55 l.p.i. Good to excellent 150 to 300 l.p.i. Difficult to impossible	Largest to 6 pt. Excellent Less than 6 pt. Difficult to impossible




For, let a n
72 POINT
The best kinc
60 POINT
Art does not flo
48 POINT
Yet it is only in very
36 POINT
All those concerned in wh
30 POINT
If the printers of today do not
24 POINT
For, let a man be as able and original
18 POINT
That which shall prove to be the blending of a fi
14 POINT
The best kind of originality is that which comes after a s
12 POINT

Panel 1. Panel 2. Panel 3.

Fig. 12.

were extreme in enlargement or reduction in size.

A situation of this kind also requires keen thinking on the part of the dot etcher. Thinking of this kind must be more abstract than concrete and must deal with effect as well as percentages, ratios and proportions, readability and optical perceptions, and readable distances.

Have you ever taken an eye test? Do you remember what the test chart looks like with its several lines of different sized type and lettering? Remember how the larger letters stand out like sore thumbs while the smallest type characters seem to blend together into dull lines of gray? Some people can read a line of small type with ease at a distance of 14 in. or less, while others would gladly add 14 in. to the length of their arms so they too could read the same line of type.

The appearance of an eye testing chart is comparative to a photographic gray scale in its variations and gradations of tone values and is comparative to the extremes of enlargement and reduction of a specific type size such as 14 pt.

These comparatives do or should influence the abstract thinking of the dot etcher while he is considering the enlargement or reduction of an image being reproduced in halftone.

What effect does enlargement or reduction have on a halftone tint such as a 50 percent value? How does viewing distance affect the optical perception of the tint values in relation to the color concentration or dispersion? Does difference in screen rulings affect the appearance of an image when reproduced at the same size? What correction is necessary to effect an equally balanced color value at all stages of enlargement and reduction, when one specific color ink must be used?

The preceding constitute only a few of the many questions to which the etcher must find answers. It is hoped that the accompanying illustrations will convey graphically a basis for the contructive application of abstract thinking so essential to the dot etcher or correctionist in doing his job.

Looking at the three panels in Fig. 12, we are immediately struck by the wide variance between the type chart and the representative gray scale and halftone panel.

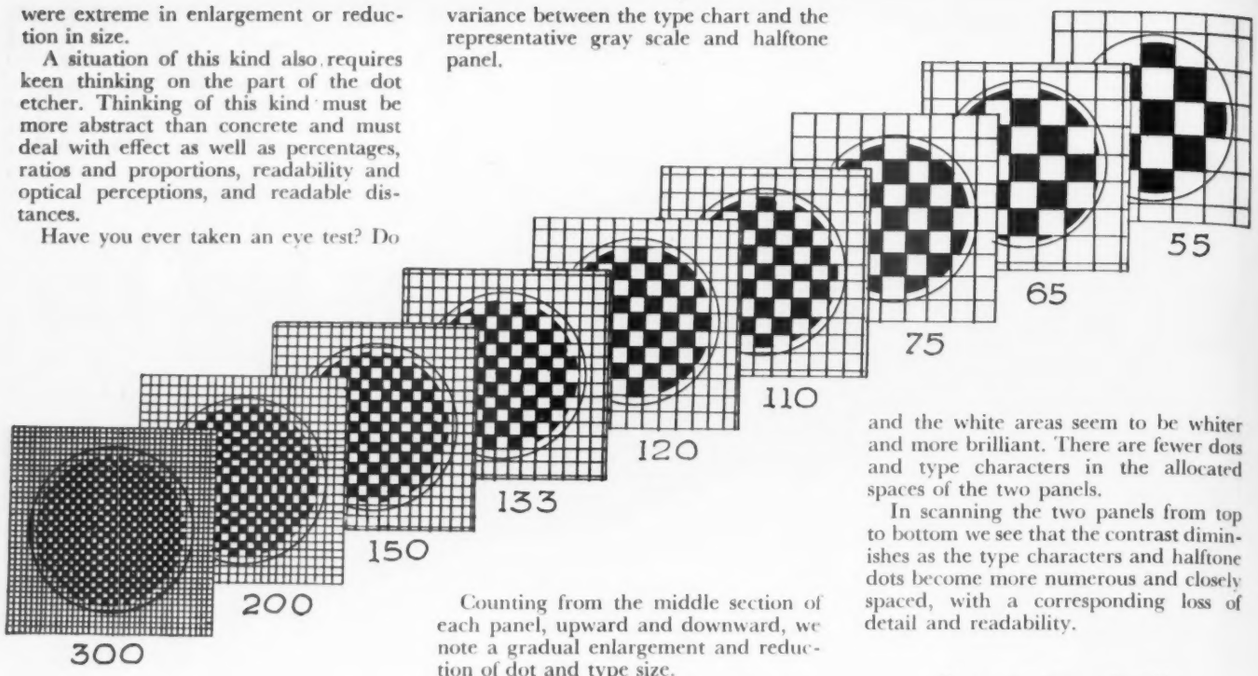


Fig. 13.

Counting from the middle section of each panel, upward and downward, we note a gradual enlargement and reduction of dot and type size.

If we study the gray scale in Panel 2, we see a definite relationship in tonal values when compared to the type chart in Panel 3. This relationship is lacking in the halftone checker board pattern in Panel 1.

In all three panels we notice the largest elements are at the top and the smallest at the bottom, yet the effect of Panel 1 is counter to Panels 2 and 3. The lightest and weaker appearing section is at the top, with the heaviest and densest section at the bottom, even though the dots range in size in the same order of progression as in the gray scale and in the same order of succession as in Panel 3.

By viewing the combined charts at distances of 6, 8, 10 or more feet, we see that the checkerboard pattern in Panel 1 does not jibe with the other panels in any way. Where the bottom sections of Panels 2 and 3 become less distinct and imperceptible, the bottom sections of Panel 1 seem to gain in density and weight.

Why?

There are several contributing factors involved in the illustrations which have direct bearing upon the thinking of the reader and the dot etcher. These factors are also keys to finding the proper corrective measures to be employed in overcoming some of the disparities and variations in effect, especially where enlargements and reductions are involved.

Some of the most general contributing factors are listed as comparative constants effecting tonal gradations. Many of these can be resolved into mathematical constants for establishing rules of procedure in dot etching and color correction.

Factor 1—Contrast

Greatest contrast of black and white is evident at the top of Panels 1 and 3 in Fig. 12. The large black dots and the large type characters appear to be blacker and the white areas seem to be whiter and more brilliant. There are fewer dots and type characters in the allocated spaces of the two panels.

In scanning the two panels from top to bottom we see that the contrast diminishes as the type characters and halftone dots become more numerous and closely spaced, with a corresponding loss of detail and readability.

Factor 2—Image Detail

For a check on the detail factor let's study Fig. 13. This illustration is a greatly enlarged representation of a 50% tint value in different halftone screen rulings. The encircled pattern represents an image of same size and its relative appearance in negative or positive form when photographed in halftone at the indicated screen rulings.

From 110 to 55 lines per inch we notice that as the contrast increases, the detail of the encircled image decreases. Greatest image detail and contrast is seen to exist between 150 and 120 lines per inch. From 200 to 300 and finer screen rulings we

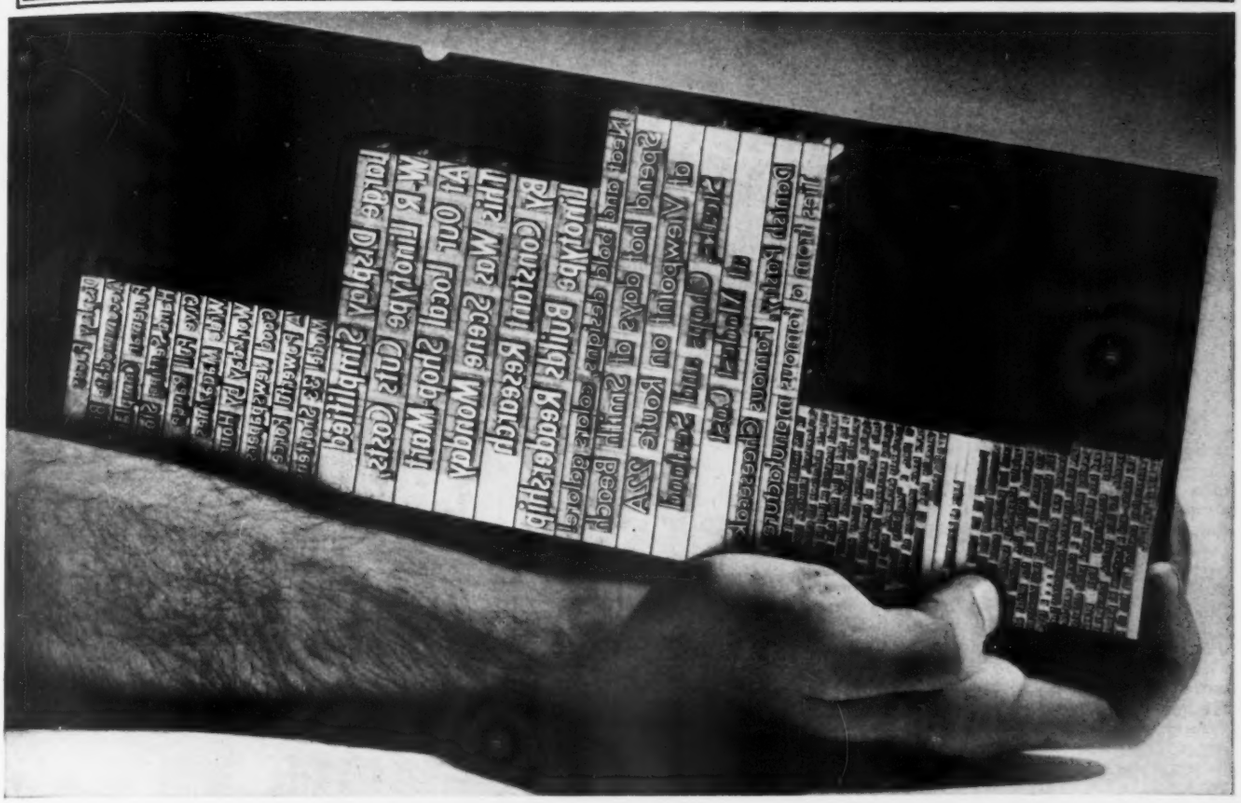
(Continued on Page 62)

• *Time-Saving Tip*

Prevents Type Wash Overflow

A PROVOKING incident in printing plants is the overflowing of a can of type or roller wash while it is being filled. A way of overcoming this is to use a small scales in conjunction with the filling operation. To begin with, a full container of the fluid is weighed and marked on the can. When the can is empty, it is placed on the scales and the type or roller wash is poured in while the reading is watched on the scales. The worker can immediately tell when to stop pouring for the weight reading will indicate that the can is full.—Reported by Herbert Ahrendt, Vice President, Ahrendt, Inc., New York, N. Y., before Cleveland Craftsmen's Club.

How Linotype Boosts Output

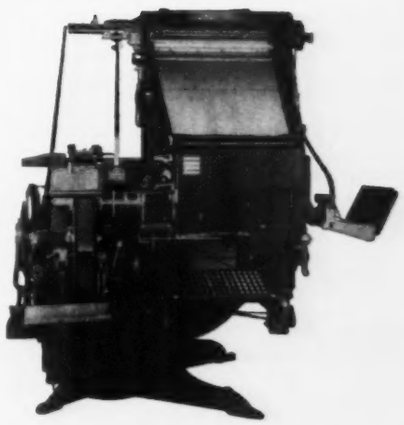


Keyboard Heads, Display *and* Straight Matter With a Model 33 Wide Range Linotype

With its wide 90-channel magazines, the modern Wide Range Model 33 Linotype proves itself to be one of the most versatile and economical machines in the composing room.

Heads, display and straight matter all flow swiftly from this simple, single-distributor machine as its exclusive Two-Speed Assembler neatly handles the extremes in sizes.

Model 33 also is available with 72-channel magazines for the large sizes, and the Model 34—with its auxiliary magazines—permits the keyboarding of even the larger sizes. Get the full, money-saving story from your Linotype Production Engineer today.



Model 33 Wide Range Linotype

Set in Linotype Caledonia and Spartan families

MERGENTHALER

• LINOTYPE •

LINOTYPE COMPANY

29 Ryerson Street, Brooklyn 5, N. Y.

Agencies: New York, Boston, Chicago, Dallas, Atlanta, Cleveland, San Francisco, Los Angeles. In Canada: Canadian Linotype, Limited, Toronto, Ontario

Accident Prevention Work Training — Twenty-five supervisors from seven Chicago printing companies are receiving basic training in accident prevention work in a 20-hr. course sponsored by the Graphic Arts Assoc. of Illinois in cooperation with the National Safety Council. The course is under the direction of Miss Lillian Stemp (standing, left), Graphic Arts consultant and author of the *Safety Manual for the Graphic Arts Industry*. Standing with Miss Stemp at the opening meeting at the Popular Mechanics Publishing Co., Chicago, are Arthur Brooks (left), Educational Director, Graphic Arts Assoc. of Illinois, and William Taylor, Safety Director for Popular Mechanics. Companies with supervisors enrolled in the course include Popular Mechanics, Carl Gorr Printing Co., Neely Printing Co., Magill Weinsheimer Printing Co., John Dickenson Schneider, Inland Press and D. F. Keller Co. Publications have been prepared by the Education Council of the Graphic Arts Industry for similar safety training courses by other interested organizations.

Today's Foreman

(Continued from Page 43)

I am sure most of you have had the experience of working for a foreman who answered your questions with a snarl and you felt like cutting his throat. Then, on the other hand, there is the ideal foreman with an even temper, a smile on his face most of the time. This guy could bawl you out when you had it coming and you would still be in there pitching for him.

"Do Unto Others . . ."

Having been in charge of plants, in three different parts of the country, I find men are the same regardless of where they might be. Treat them like human beings, give them good equipment to work with and a decent place to work in and you will get production. To use an old Biblical phrase: "Do unto others as you would have them do unto you."

Regardless of how large your office or the number of employees you might have under you, it can never be so big that you cannot personally know all or most of your people. A lot of big-time operators will give you the ha-ha when you suggest this, but I have noticed in the plants where these men are in charge they have a very wasteful and high production cost and are consistently having labor troubles. If you get too big for your britches and end up being a Mr. Guy you will not last very long.

Because the composing room foreman has the authority to hire he must be a competent judge of work. With today's salaries as high as they are, the over-hiring now of several men means several hundred dollars, and under-hiring usually means overtime, which in turn means premium price at the highest rate in history.

Indispensable Foremen

Today's foreman must know how to organize his work and most important of all, have the knowledge of delegating responsibility. I have found many foremen who try to run a one-man shop and make themselves indispensable. Apparently they are afraid someone is going to take their job. This is wrong thinking because it is impossible to have a successful operation unless it is well organized. This can only be done with capable assistants. I personally would rather have a dozen guys crowding me for my job. This would mean that there were a dozen men besides myself giving their all to get the best productivity, and certainly the efforts of 13 people would be better than the efforts of one. I have also felt that a foreman's ability to organize the operation is reflected in how well it runs when he is absent.

Spend Time Supervising

Unless located in an unusually small office, today's composing room foreman should be in a strict supervisory capacity. Constant and close supervision seems to be more necessary than ever before and, apparently, is one of the rules of nature. I find the mistake being made in many offices where the foreman is a highly skilled mechanic and thinks he is helping production by getting a finger in. The feeling usually is that he thinks he is leading his men, but the result, during the time he is busy on one specific job, is that more time will be lost elsewhere in the office through lack of supervision.

The condition of your equipment is the next important step if you expect to improve reproduction qualities and also reduce cost. If you are working with a lot of out-dated and worn-out equipment, you are fighting a losing battle and it is much like driving a Model T Ford on today's speedways—everything and everybody will be passing you. Equipment in this condition is not capable of producing the necessary amount or quality of work. The cost for maintenance will be many thousands of dollars more per year than it should. It is impossible for management to know and judge the condition of your equipment or to keep up with the improvements as they come on the market. This is your job and management depends on you for this.

Because newspaper machinery costs a lot of money it is not always easy to convince management that equipment should be replaced. However, I believe in most cases if you are able to justify these purchases by proving to management the savings and better quality that can be expected with the purchase of new machinery, you will find management in a receptive mood.

Consult the Workers

When buying equipment it is impossible to follow a set pattern because what might be right for one office does not always fill the bill in another. Supply and equipment representatives can be of great assistance to you but it is still your problem and it takes a great deal of careful study. After this equipment is installed in your plant you are stuck with it and have to make it work. I have found when planning new equipment purchases it is good policy to consult the people who have to work with it, and you will be surprised at the valuable ideas that come out of it.

Studying Equipment Layout

The layout of your equipment and the amount of it is important if you are going to hold down the cost. The flow of work in all departments should be in one direction. Back-tracking means extra steps and that means time and money. Extra steps should be eliminated wherever your layout will permit because you hire manpower to produce—not to walk all over the office to perform their duties.

Old worn-out equipment and poor layout have a bad effect on the morale of employes. When an employe has to fight the equipment or walk all over the shop to perform his duties you are not going to get much production and they soon get the attitude that if the office does not care if they get production, why should they? It is pretty hard to demand the production to which you are entitled, under these conditions, and you will find that you are hiring three employes to do the work of two.

The amount of equipment is also important. If you lack enough equipment so that it causes non-productive or waiting time it is costly. Remember, although newspaper equipment is costly, you only have to pay for it once, but the employe's time goes on and on and salaries are not getting any lower. Although I have criticized the equipment manufacturers for not keeping up with manufacturers in

Craftsmen's Convention Program

A program designed to cover most technical phases of the Graphic Arts will comprise the educational part of the 35th Annual Convention of the Intl. Assoc. of Printing House Craftsmen to be held at Bellevue-Stratford Hotel, Philadelphia, August 8-11. Details are not completed but it is known that clinics will be held on photocomposition, letterpress presswork, wet and dry offset, silk screen, gravure, flexographic printing and magnesium printing plates. Time will be permitted for discussion of the latest developments in the industry. Convention Program Chairman is Harry Seeburger, Production Mgr., John Faulkner, Arndt Advertising Agency, Philadelphia.

Co-operation, the KEY

that opens all doors. You-all sure co-operated with us . . . over 11,000 Gold-mines since V-E-Day. Fantastic? Yes, but just as true as the fantastic profits those GOLD-MINES are daily creating for their astute owners.

This fantastic volume enabled us to maintain fantastically low (almost pre-war) prices, in an era when other machinery more than doubled or more than tripled, prewar price. Never aimed at over 2% net profit (took even less)

IN '54 . . . we'll do even MORE

Your Gold-Mine is yours for the taking . . . and only 5% initial (less than $100 on all models smaller than 22x28) . . . balance, the tiniest share monthly of the increased velvet profits it creates . . . the next 30 months. No finance charge . . . just simple interest.

You can't make bricks without straw . . . users all say they couldn't make a profit without the finest, fastest folder ever designed. The next move yours . . . pick up the telephone . . . call (it MUST be Collect) Lombard 3-8165 . . . Do give me the pleasure of talking it over with you—thanks a million.

RUSSELL ERNEST BAUM (Himself)
615 CHESTNUT STREET • PHILADELPHIA 6, PA.

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Now . . . Graphic Arts Saws
That Stand the Gaff

We Are Proud to Offer the Most Modern Development in the Graphic Arts Industry in 15 Years!

Trims linotype slugs, zinc cuts and electrotypes without burrs.

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GRAPHIC ARTS SAWS

WOODSMAN blades are stocked to fit all standard machines. Special saws also available.

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Slices through mounting nails without damage to the blade.

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STAR First Elevator Jaws

FOR OUTSTANDING PERFORMANCE!

UNRETOUCHED PHOTOGRAPH OF STAR FIRST ELEVATOR JAWS

The first elevator jaws are important parts. Important because they hold the matrices in position during the critical casting operation. Proper alignment between the mold and the first elevator jaws is essential for long matrix wear and economical production.

STAR First Elevator Jaws are precision-ground to an unequalled finish. This assures smoother matrix transfer in and out of the Jaws which reduces wear on the matrices, Jaws, and related parts to an absolute minimum. As an extra feature, all STAR First Elevator Jaws are treated with the rust resistant Pentrate process.

If your present First Elevator Jaws are worn, sprung or warped, apply new, longer-wearing STAR parts. They are made to last. Write for economy features of STAR First Elevator Jaws.

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TRADE ★ MARK

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other industries, we should at least take advantage of what is on the market. There are machines and time-saving equipment available that still has not found its way into some shops.

Responsibility for Deadlines

Deadlines in both advertising and news are a must if you are to control your cost. These deadlines should be far enough advanced to allow you time to plan and do your work properly. The only way to get these deadlines is to guarantee service. The only way to keep your deadlines is to deliver. It never works on a one-way road. I know many of you are probably thinking about what are you going to do when you have editorial and advertising departments that recognize no deadlines, hold back copy until the last minute and allow proofs to be torn up just about press time. I don't care whether you are a production manager, mechanical superintendent, or foreman, this is your responsibility. Top management hires you and depends upon you for this.

Top management cannot be expected to know all about the entire mechanical operation. This is our problem and it usually means a hell of a fight to get what you need, but with production costs what they are today, top management will listen to you if you are able to justify your demands. You will get discouraged as the devil at times but you must keep shouting until you are heard.

Management Does Care

Don't get the attitude, like so many do, that if management does not care how much they are wasting or what time they get out, why should I? Management does care, but in most cases have always accepted an explanation from the wrong people. Unfortunately, in some cases, they seem to have the attitude the mechanical departments just complain for the sake of having something to bellyache about.

If we are to stay in business these rising costs must stop. This means there are some tough days ahead for composing room foremen. My advice is to go home and examine that equipment and start building up your story to justify replacements. Take a good long look at your employe relationship and see if you are not missing the boat somewhere. If you are having a little aggravating labor dispute, get busy and have a definite understanding. Take another look at those cost reports and see if you are entirely satisfied with them. You will probably laugh at this suggestion but it might also help to hang a mirror in your office so you can take a look at yourself before you go into the plant. You might find at times what you see there is not too receptive to your employes.

Southwestern Exposition

The Shamrock Hotel Hall of Exhibits, Houston, Tex., will be the site of the Southwestern Graphic Arts Exposition July 3-11. Graphic Arts groups meeting in Houston during the Exposition include the Ninth District Conf. of the Intl. Assoc. of Printing House Craftsmen (July 3-4), the Southwestern Conf. of Printing Pressmen and Asst.'s of North America (July 4-7), the Southwestern Graphic Arts Management Conf. (July 5-6), the Southwestern Typographic Composition Assoc. (July 9-10), and the Southwest Litho Clinic (July 10-11). According to Business Mgr. O. K. Eden, applications received as of March 1 have already accounted for over one-third of the available space. Included among the exhibitors are letterpress sheet fed and roll fed press manufacturers, offset plate and rubber plate manufacturers, roller manufacturers, firms handling pressroom, composing room, camera and binding equipment and supplies. Eden also stated that information pertaining to the Exposition may be obtained from Southwestern Graphic Arts Exhibitors, Inc., 1108 Blodgett, Houston, Tex.

R&EC Looks Into Uses of Color

A TECHNICAL conference on color printing and color photography will be held by the Research and Engineering Council of the Graphic Arts Industry, Inc., at its annual meeting May 12-14 in Kalamazoo, Mich. According to the Chairman of the Arrangements Committee Elliott Donnelley of R. R. Donnelley & Sons Co., Chicago, the meeting will be designed to bring about a better understanding of the uses of color in printing.

Part of this year's meeting will be devoted to a combined session of the Planning, Publications, Ways & Means, and Executive Committees. Condensed reports on progress in research for the Graphic Arts industry will also be presented.

Subjects for discussion and speakers on the program are as follows: *Impact of Color—Its Aspects*. (speaker to be announced); *Seeing Light and Color*, Ralph M. Evans, Director, Color Technology Div., Eastman Kodak Co.; *Paper As It Relates to Color Printing*, William A. Kirkpatrick, Vice Pres., Allied Paper Mills; *Process Printing and Inks*, Francis L. Wurzburg, jr., Sales Engineer, Printing Ink Div., Interchemical Corp.; *Control of Color During Printing Production*, (speaker to be announced); and *More Brilliant Color Printing with Fluorescent Materials*, Henry D. Ferguson, Vice Pres. in Charge of Research, Lawter Chemicals, Inc.

The three-day meeting will also include a tour of plants in the immediate Kalamazoo area. Further details may be obtained by writing to the Research and Engineering Council, 719 Fifteenth St., N.W., Washington 5, D. C.

Foremen Now Select Machines

(Abstracted from a talk given by Harry Eybers, Production Mgr., Washington (D. C.) *Post*, entitled *Today's Composing Room Foreman*, delivered at the Northwest Mechanical Conference, Minneapolis, Minn., February 1954.)

Even though machinery manufacturers and supply people have not kept pace with other industries there still have been some developments in late years that have done a great deal toward curbing cost. The old-time foreman did not have to worry much about machinery and what little there was the front office bought, usually without the knowledge of the foreman. With the coming of the machine age, top management has had to depend on their composing room foremen to keep abreast with the new equipment and methods.

Technical Topics Heard by SNPA

Approximately 150 newspaper mechanical and production executives were in attendance for the 1954 SNPA (Western Div.) Mechanical Conference held recently in Little Rock, Ark. Conference Chairman was Palmer Black, Production Mgr., Amarillo (Tex.) *News* and *Globe Times*, assisted by Carl P. Lawrence, Tulsa (Okla.) *World and Tribune*. Other conference officials were Walter Johnson, jr., and Ray B. Crow, both of the SNPA.

Officers elected for 1955 were as follows: Conference Chairman, Carl P. Lawrence, Composing Room Supt., Tulsa (Okla.) *World* and *Tribune*; and Vice-Chairman, Roscoe Amonette, Marshall (Tex.) *News-Messenger*. New Executive Committee members are Roy Durie, Waco (Tex.) *Tribune-Herald*; Donald M. Corsette, Texarkana (Ark.-Tex.) *Gazette*; Arthur Howard, Shreveport (La.) Newspaper Production Co.; and Curtis Richards, Duncan (Okla.) *Banner*. Eddie P. Gaughan was elected chairman of the 1955 Supplymen's Committee.

Address of welcome was delivered by K. A. Engel, Publisher, Little Rock *Arkansas Democrat*. John N. Barron, Mechanical Supt., La Salle (Ill.) *Daily News-Tribune*, spoke on *What's New in the Back Shop*. *Today's Mechanical Problems* was the subject of a talk by Richard E. Lewis, Mgr., ANPA Mechanical Dept., New York, N. Y. Donald B. Lytle, Technical Director, Lake Shore Electrotype Div., Electrographic Corp., spoke on *Color Pools and Other New Developments in ROP Color Printing*. An address entitled *Teletypesetter Advances* was given by Frank J. Phillips, Sales Engineer, Teletypesetter Corporation.

Departmental discussions at the conference were led by the following: Composing Room, Carl Williamson, Baton Rouge (La.) *State-Times*; Pressroom, Lewis Faires, Austin (Tex.) *American-Statesman*; Stereotype Dept., Ray Armstrong, Amarillo (Tex.) *News*; Engraving Dept., Roy Johnson, Little Rock *Arkansas Democrat*; Mail Room, Emmett Elliott, Little Rock *Arkansas Democrat*; Machinists, Russell K. Bobbitt, Oklahoma City (Okla.) *Oklahoman & Times*; and Maintenance Dept., Robert E. Harrison, Dallas (Tex.) *Morning News*. Films and slides, including Mergenthaler Linotype Co.'s 3-D slides and Intertype Corporation's *A New Era in Printing*, were shown.

*50 Million daily readers

...that's a lot of people, or readers...about one-third the population of the entire United States. Yet that's approximately the number of people who daily sit down and read a newspaper printed on presses **electrically powered and controlled by Cline-Westinghouse Equipment.**

Considering the competitive manufacturers in the field such a proportion is a significant endorsement of Cline.

* From statistics of Editor & Publisher and Standard Rate and Data . . using an average of 2 readers per newspaper.

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Materials Handling

in the printing plant — Suitable equipment contributes to efficiency

By FRANCIS A. WESTBROOK*
**Mechanical Engineer*

II.

THE experience of the Michigan Lithograph Co., Grand Rapids, Mich., with the motorized hand trucks is also interesting as it is along somewhat different lines, which indicate the versatility of this type of handling equipment. In this plant the average skid load weighs around 3250 lbs. Such loads could be moved by hand on level floors with a reasonably good surface but there are several ramps which would necessitate calling helpers off other jobs to assist the trucker in negotiating the grades.

For example, when loading semi-trailer highway trucks at the dock there is a considerable slope so that, when standard hand lift trucks were used, it took five men to load. When unloading the trailers it took three men to brake the hand lift truck as it went down the grade. With the motorized lift truck this is now a one-man job, either up or down grade. There is also a right angle turn on the dock which was difficult and dangerous with the old hand trucks and much easier and safer with the powered unit because of the better control.

When making deliveries of single skid-loads around the city the power hand lift truck may be carried along to assist in getting the load off the highway truck and placing it where desired by the customer.

The ability of the new truck to pull its load up a ramp has also made it possible for the Michigan Lithographing Co. to use a considerable area for storage purposes which was previously wasted because it was too difficult to get in and out of that space with the old hand trucks.

In this plant steel plates are used on the wooden floors for runways. If the old type of hand trucks ran off these runways the only way of getting them back was by means of a pry pole. However the rubber tire on the drive wheel of the new truck easily climbs back over the edge of the plate and has entirely eliminated this annoying difficulty.

According to the traffic manager of the company the savings made by reduced damage to materials, greater safety and better morale among those who handle the stock pay for the truck in about one year. Fig. 21 shows another Automatic Transportation truck, the Skylift, with a roll handling accessory. This turns through 360 degrees and can handle properly balanced rolls up to 78 inches in length. The attachment is easily removed in a few minutes and standard forks substituted.

A further advantage of the power hand truck suggested by the Clark Equipment Co. is that its relatively light weight makes it safe to use in buildings where the floors are not designed to carry the usual power fork lift trucks, and the like. This concern makes both gas and electric-powered fork lift hand trucks which are used in the printing industry more or less as previously discussed.

Economy Engineering Co. makes a line of mechanical lifters for handling rolls of paper and flat stock. Some are designed for manual and others for electrical propulsion. The lift is in all cases electrical. These are used to place rolls in storage and to take them out for delivery to the press, at the plants of the Detroit *News*, Chicago *News* and Milwaukee *Journal*, among others. It is usual to place the rolls on dollies moving on tracks between the lifter and pressroom.

In the seven floor warehouse of the Detroit *News*, each floor is provided with a four-post Economy electric lifter designed to handle rolls of newsprint. Originally it was planned to use overhead handling equipment but due to the low headroom it was found to be inefficient in the use of the space. That is, by employing this type of lifter, it was possible to stack to the ceiling which is 50% more than could be done with the overhead system. In addition the latter is more expensive. The rolls of paper are brought in on dollies running on tracks parallel to the lifter tracks so that both the lifter and dolly can be spotted at the point where the roll is to be stacked, or removed from storage.

An Economy manually propelled electric lift (Fig. 9) with a capacity of 2000 lbs. and 22 ft. high, in the large warehouse of the Chicago *Tribune*. The rolls of newsprint come in on dollies running by gravity on slightly inclined tracks. An automatic stop is provided whereby the operator predetermines the exact point at which the lift platform is to stop before he presses the pendant push button control. When empty, the dollies continue along the track by gravity to the end and drop automatically to a lower level track, over which they return by gravity to the starting point.

The New York *Times*, in a Brooklyn warehouse, installed the Economy cantilever type electric lifter shown in Fig. 10. It is less expensive than the four-post machine and is capable of handling rolls weighing 2000 lbs. and 72 in. long. The platform is 43 in. wide and the cantilever length is 60 in. The base wheels are 9 in. in diam. and are equipped with Hyatt roller bearings.

Another interesting installation for handling rolls is in the plant of the Milwaukee (Wis.) *Journal*. Here an Economy four-post self-propelled electric lifter is used. Similar installations have also been

Fig. 9.—Manually propelled high electric lifter (Economy Engineering Co.) in the warehouse of the Chicago *Tribune*.

Fig. 10.—Economy Engineering Co. cantilever type electric lifter for newsprint rolls used by New York *Times*.

Fig. 11.—View of section of Syracuse (N.Y.) *Post Standard* composing room where pneumatic tubes extend from other departments. (Photo courtesy Lamson Corporation.)

Fig. 12.—Plates leaving the Wood Autoplate machines at the rate of four per min. on gravity roller conveyors at the New York *World-Telegram*. (Photo courtesy Lamson Corporation.)

Fig. 13.—Page stereotype plates coming from foundry to live roller conveyor in pressroom of New York *World-Telegram*. (Photo courtesy Lamson Corporation.)

Fig. 14.—Upright hand propelled trucks with two platforms in use at the John Maher Printing Co., Chicago. The second platform is easily removed if not wanted. (Photo courtesy of C. F. Anderson & Co.)

Fig. 15.—Upright signature trucks in use in the bindery of the John Maher Printing Co. with the platforms removed. (Photo courtesy of C. F. Anderson & Co.)

Fig. 16.—Continuous waste paper baler in use in a large periodical publishing plant. The traveling electric hoist is used for handling the bales. (Photo courtesy The American Baler Co.)

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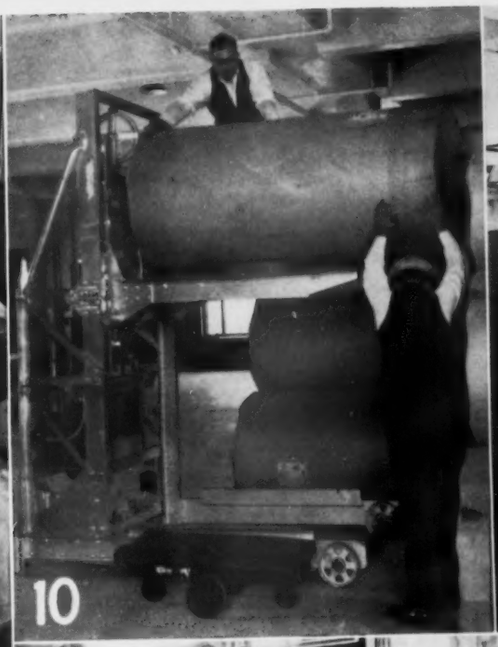
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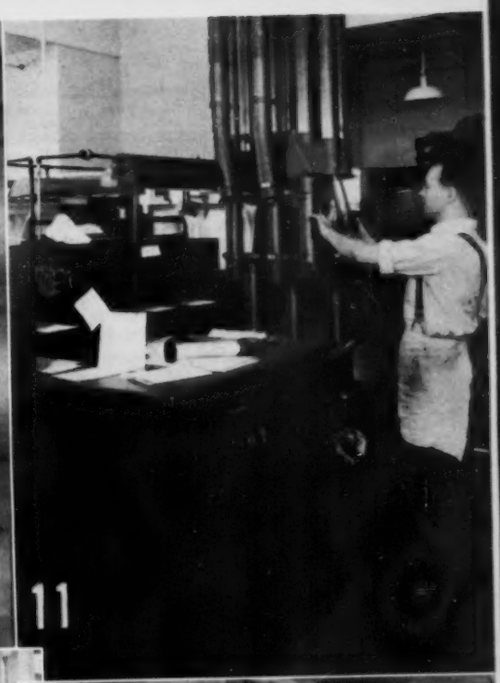
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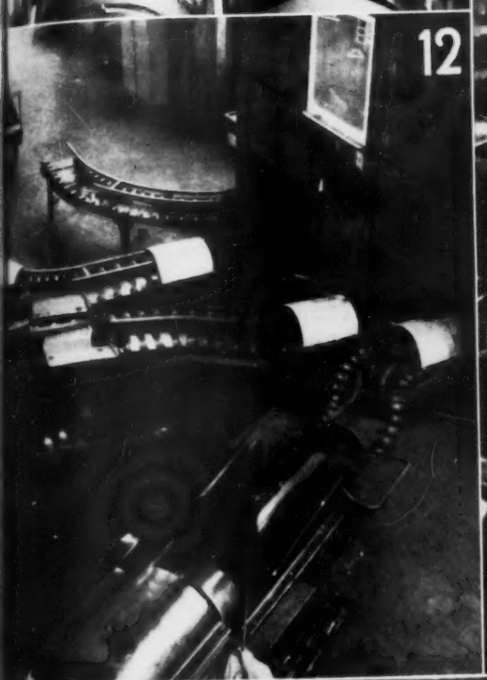
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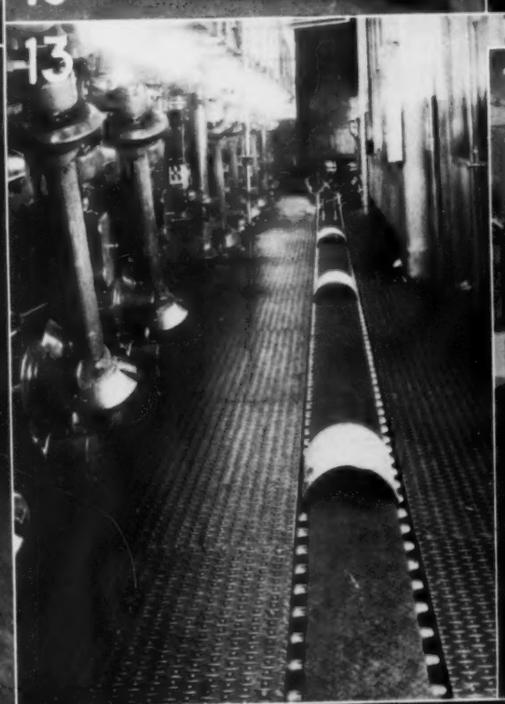
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made by the Toronto (Ont.) *Star* and the Philadelphia *Inquirer*, among others.

In the Milwaukee *Journal* job the newsprint is brought into the building on a conveyor to the upper level. An automatic stop holds the roll until the tiering machine is in place to receive it. When the platform is at the proper level the automatic stop is depressed, the newsprint rolls on to it and is held in place by another automatic stop on the platform. There is one of these tiering machines on each side of the storage space. Power comes from a third rail carefully hooded close to the wall.

There are numerous other items used for mechanical handling in printing plants other than those so far discussed, and which play an important part in efficient production. In newspaper plants, for instance, speed is a first consideration. This means fast movement of all materials without confusion and at minimum cost.

For quick contact between the classified advertising, the display advertising and editorial departments and the composing room, pneumatic tubes are frequently used. Fig. 26 shows the news room end of a Lamson Corporation installation where the tubes go to the composing room of the Syracuse (N.Y.) *Post Standard*, and in Fig. 27 is seen the composing room to which the pneumatic tubes come in from the various departments for the delivery of copy. The news and classified advertising departments use smaller tubes, while the display advertising department may use tubes large enough to carry good sized mats and cuts.

The stereotype plates for the presses are also handled mechanically in the large up-to-date plants. They are not touched by hand from the time they are cast until they are locked in the presses. Fig. 28 shows plates leaving the shavers at the rate of four per minute and moving by Lamson gravity roller conveyor to a vertical conveyor to the pressroom. When they reach this point they are delivered to a Lamson live roller conveyor which carries them to the presses as seen in Fig. 13. It is to be noted that this conveyor is set in the floor, the center of which is covered so as to provide the extra floor space. In this way it is only a matter of minutes from the setting of the type to the starting of the presses.

Craftsmen's Hotel Accommodations

Three Philadelphia hotels are to be utilized for accommodations at the 35th Annual Convention of the Intl. Assoc. of Printing House Craftsmen, August 8-11. Convention headquarters will be located at the Bellevue-Stratford Hotel. In addition, the Ritz-Carlton, across the street from the Bellevue, and the nearby Adelphia Hotel, will cooperate in housing Craftsmen in attendance. Hotel Arrangements and Reservations Committees are headed respectively by Joseph O'Neil, Supt., Dornan Company, 7th and Arch Sts., and Horace De Ancona, President, Artcraft Photo-Engraving Co., 212 S. 9th St., both of Philadelphia.

Vertical conveyors are frequently used to carry piles of papers from the press balcony to the mailing room where the paper is bundled. Sometimes a belt conveyor carries the bundles to chutes leading to the loading dock.

Among the more useful items of handling equipment in the pressroom and bindery are the comparatively small hand-propelled trucks. One of these is shown in Fig. 5 taken for relatively long hauls by power lift trucks. Figs. 14 and 15 show Anderson upright trucks in action at the John Maher Printing Company in Chicago. In these instances they are not being moved by power trucks. They are made with either two platforms (Fig. 14) particularly for binderies, and with four platforms for the job press department. The platforms are easily removed, as seen in Fig. 15, when not needed.

Obviously, these trucks occupy a minimum of floor space, saves damage to the materials and furnish a ready means of transportation without additional handling. It is said that a girl can easily push a load of 500 lbs. without undue exertion.

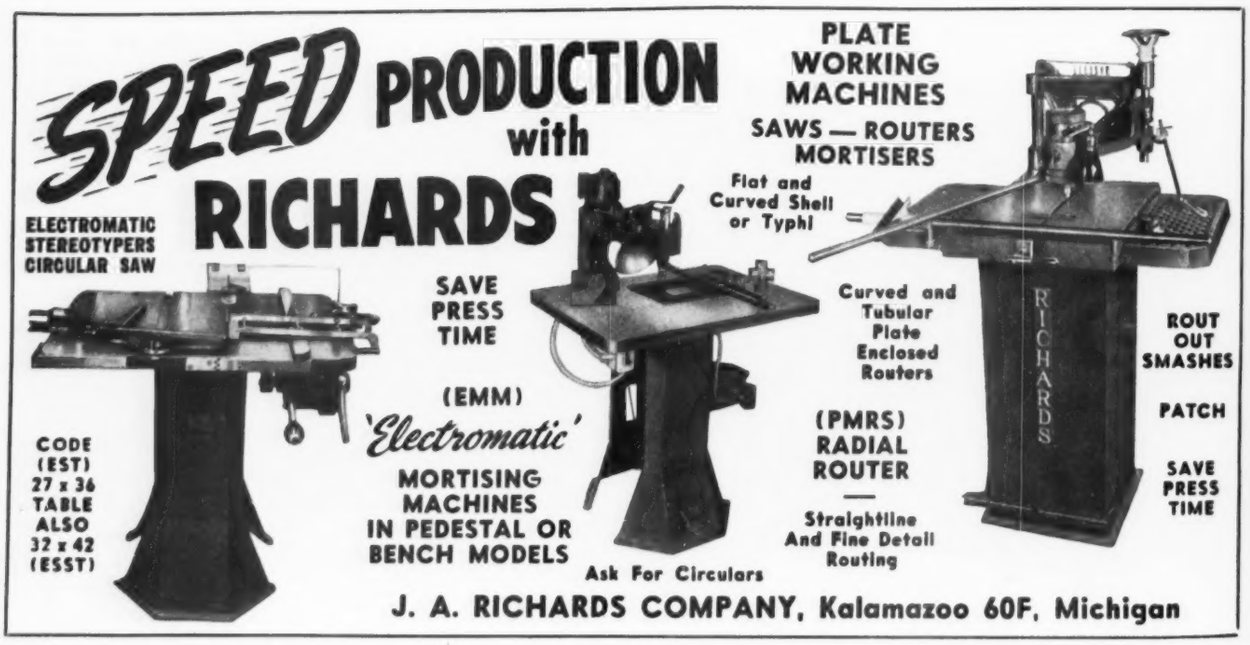
½% Waste Salvage

A good example of what it means to salvage waste efficiently in a newspaper plant is to be found at the Johnstown (Pa.) Tribune Publishing Co. This concern publishes both a morning and an evening paper. It reports that it has two Minnich balers and that about 20 bales of waste per week are made. These bales weigh about 500 lbs. each, and are handled by two men with a hand truck.

The balers are located directly under the reel room. The waste is dropped through a fireproof metal chute into the baling room. Bales are taken away once a week by the local scrap dealer. In this way the company saves about half of 1% of its total newsprint consumption which would otherwise have been lost.

When it comes to the disposal of waste paper the American Baler Co. explains that many printing plants have installed quite elaborate equipment, especially the large concerns which have considerable quantities of trimmings, wrappings, etc. There are two basic methods of handling employed, depending on the amounts to be taken care of and the kind of material. That is, trimmings of ordinary paper such as newsprint and magazine stock, and the like, is often picked up by vacuum equipment and blown through tubes to a central point where it is baled.

(*Continued on Page 64*)


SPEED PRODUCTION with RICHARDS
ELECTROMATIC STEREOTYPERS CIRCULAR SAW
CODE (EST) 27 x 36 TABLE ALSO 32 x 42 (ESST)
SAVE PRESS TIME
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Ask For Circulars
PLATE WORKING MACHINES
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Straightline And Fine Detail Routing
ROUT OUT SMASHES
PATCH
SAVE PRESS TIME
RICHARDS
J. A. RICHARDS COMPANY, Kalamazoo 60F, Michigan

Patents

For The GRAPHIC ARTS

Covering patents issued Jan. 5, 12, 19 and 26.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

COMPOSING ROOM:

2,664,986. APPARATUS FOR COMPOSING JUSTIFIED LINES takes the form of a register which is actuated by a manual keyboard for storing information corresponding to a line of characters and interword spaces. The information stored in the register is transcribed into a line of characters. The register and transcribing arrangement are alternately connected to two similar justifying devices, each adapted to control spacing between transcribed characters, whereby storage of one line takes place simultaneously with transcription of a line previously stored in the register. Invented by Rene Higonnet and Louis Moyroud, Cambridge, Mass. Assigned to Graphic Arts Research Foundation, Inc., Cambridge, Mass. Application Sept. 30, 1950. 17 Claims.

2,665,799. DELAY MECHANISM FOR TAPE CONTROLLED APPARATUS. A signal controlled mechanism is provided for controlling the automatic operation and supervision of linecasting and composing machines. The apparatus is responsive to consecutively repeated characters for introducing automatically a time delay in the operation of the control unit. The inherent speed of unit is adjusted with that of its associated linecasting machine. Invented by Carl W. Swan, Skokie, Ill. Assigned, by mesne assignments, to Teletypesetter Corporation, Chicago. Application Sept. 12, 1950. 11 Claims.

2,665,800. ATTACHMENT for use with conventional slug casting machines to provide for automatic or semi-automatic operation of the elevator for lifting a line of type which has been assembled on a block, and its subsequent lowering. The elevator operation cycle is initiated by a touch on a key to the left of and in alignment with one of the rows of keys on the keyboard, which has the same touch as these keys. This operation releases a latch, permitting a tension spring to lift the elevator to the transfer position where it is locked in the customary manner until the matrices have been removed. The line transfer mechanism for removing the matrices, which is mechanically operated, tensions a second spring forming a part of the attachment, which spring when released is conditioned for the next lifting operation. Invented by Virgil A. Johnston, Fulton, Mo. Unassigned. Application Mar. 10, 1947. 2 Claims.

2,666,002. CONTRASTING COLORS FOR TYPE MATRICES, such as brass matrices for integral line type, are used so that the identifying character of the matrices may have a background for showing up the characters more clearly. The coloring is effected by filling the character indentations with a chemically and thermally inert light colored pigment such as calcium sulphate; applying to the surface in which the character is stamped a strip impregnated with thio-urea, and applying sufficient heat to the strip to decompose at least a part of the thio-urea. Invented by William Heinecke, New York, N. Y. Unassigned. Application Sept. 29, 1951. 9 Claims.

2,666,520. CENTERING AND QUADDING DEVICE. In a line assembling and type casting machine in which a line of assembled type is held in a vise during casting operation, the vise is held in closed position by two movable jaws. The driving arrangement for moving the jaws relative to one another is lockable by a detent. A shiftable trip, carried by the elevator of the type casting machine, releases the detent. A guide, mechanically linked to and operated by the assembler, is connected to the trip to position the trip to release the detent when a short line is assembled and to position the trip to leave the detent in effect when a normal line is assembled. A brake engages the guide to hold it in position fixed by the guide until casting of assembled line is completed. Invented by Thomas H. English, Atlanta, Ga. Unassigned. Application July 19, 1948. 14 Claims.

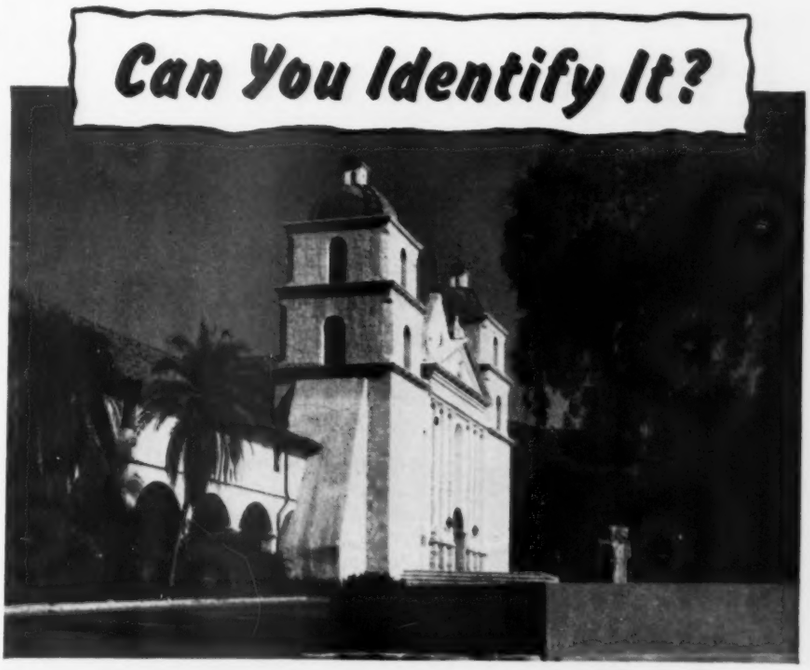
2,667,265. TYPOGRAPHICAL COMPOSING MACHINE. A Linotype machine of the class designed to handle matrix fonts which differ from one another in the size and number of characters has two superposed inclined magazines provided with escapements. A single set of escapement actuators is common to both magazines. Two groups of long connecting reeds are mounted in a frame which is hinged at the top, permitting the lower ends of either group to be selectively brought into operative alignment with keyboard elements. The upper ends of the reeds of both sets are in constant engaging relation to fore-and-aft pivoted levers, the forward ends of which are in constant engaging relation to lower ends of escapement actuators. Invented by John H. Hilpman, Springfield Gardens, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application Sept. 7, 1950. 5 Claims.

2,667,628. A SIGN TRANSFER DEVICE is applicable to typesetting machines, such as Linotype machines, and comprises a number of successive rows of members each of which is adapted to occupy a plurality of positions corresponding to letters. The device is intended to establish an arrangement whereby it is possible to give a letter or row of letters already represented or registered on the device a relative displacement in space. Invented by Roger M. Chaveneaud, Paris, France. Unassigned. Application Sept. 5, 1950; in France Sept. 17, 1949. 5 Claims.

FEEDING, FOLDING, DELIVERY:

2,665,787. CLUTCH AND BRAKE FOR PAPER SEPARATOR DRIVE MECHANISMS includes a driven shaft and separate control shaft mounted for longitudinal reciprocation and rotation about the longitudinal axis of the first shaft between a braking and a driving position. A brake operates upon driven shaft and a radial cam is carried by control shaft to control a cam follower which cam follower is interconnected with the brake so as to apply the brake when the control shaft is moved to braking position and to release shaft in driving position. A clutch drive for the driven shaft includes a driven and a driving clutch interconnected by a drive transfer. A prime mover drive rotatably drives driven clutch, stationary cam and cam follower. Stationary cam and cam follower cooperate to produce an endwise shifting of the control shaft as it is rotated from braking to driving position, where the clutches are engaged. Spring cushioned thrust bearings interconnect control shaft and drive clutch and are compressed by the control shaft only when said shaft is in driving position, the angular position of the radial cam with the stationary cam being selectable. Invented by Thomas A. Ribich, Cleveland, O. Assigned, by mesne assignments, to Weldon Tool Co., Cleveland, O. Application Dec. 9, 1950. 2 Claims.

2,665,907. AIR CONTROL MECHANISM FOR PNEUMATIC SHEET SEPARATORS in a paper folding machine is for shutting off the air blast in the paper separating part of the machine when a plurality of sheets rather than one is removed from a paper stack. The control is an electrically operated valve and may be operated either manually or automatically to direct an air blast into the edge of the stack of papers only while the sheets are being removed from the top of the stack. As soon as more than one sheet is fed, the valve acts in connection with a detector to cut off air blast and a catcher prevents the plurality of sheets from being deposited on a conveyor so that the sheets may be



• This famous edifice is on a hill in California overlooking the Pacific Ocean. Recognize it?

Every stereotyper recognizes the importance of the final reproduction. In printing, the limitations of paper and press are factors he can't control. But leading stereotypers know how to greatly reduce these restrictions. They use BURGESS MATS! They know BURGESS MATS faithfully mold the original and *hold* it in the cast—resulting in reproductions that are sharp and clean. Use BURGESS MATS...*you'll* see the difference. (*Santa Barbara Mission*)

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BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
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separated by hand and refed. Invented by Thomas A. Ribich, Cleveland, O. Assigned, by mesne assignments, to Weldon Tool Co., Cleveland, O. Application Sept. 6, 1950. 3 Claims.

2,666,598. PAPER WEB GUIDE is applicable to supply rolls for printing presses and has a guide roller around which a web is arranged to make a turn, a support pivotally connected to each end of the roller, and a base adjustable in length. The supports are of equal lengths and are pivotally connected to the base to form a trapezoidal shape of which the supports are the non-parallel sides. The output element of a servo-mechanism is connected to rock the roller by rotating the supports laterally about their base connections. A lateral web position sensing arrangement is connected to drive the input element of the servo-mechanism. Invented by Willard C. Robinette, South Pasadena, Calif. Unassigned. Application May 5, 1950. 13 Claims.

2,666,639. WEB CENTERLINE CONTROL DEVICE is applicable to printing presses, specifically multi-color presses. Each of two exploring heads has at least one reference arrangement sensitive to lateral displacement of the edge of a web with respect to the arrangement and positioned near the two edges of the web. Signals from each of the heads indicating lateral displacement of the web edges in directions non-opposite to each other actuate a mechanism for initiating lateral movement of the web. If the edges are displaced in directions opposite to each other, the two heads are moved simultaneously and symmetrically with respect to the centerline of the web. Invented by Joseph C. Frommer, Cincinnati, O. Assigned to Electric Eye Equipment Co., Danville, Ill. Application May 14, 1951. 5 Claims.

PLATEMAKING:

2,664,788. STEREOTYPE FINISHING MACHINE comprises a semi-cylindrical form to receive a plate. Vertical guideways are mounted on the machine adjacent the form. Blocks are slidable in the guideways and are formed with channels extending laterally of the form in which plate rails are slidable. The plate rails support the straight edges of a plate in operative relationship to the form. Levers are mounted on the blocks and connected to the plate rails. A cam arrangement is connected to the blocks and to the levers. It is effective to lift the plate rails while moving them first inwardly then outwardly diametrically of the form. Invented by Christopher Verne Knell, Glen Ellyn, Ill. Assigned to The Goss Printing Press Co., Chicago. Application Nov. 16, 1945. 6 Claims.

2,665,984. METHOD FOR MAKING COMBINED LINE AND HALFTONE NEGATIVES, for the production of printing plates from copy held before a camera, provides for inserting a clear transparent mask holder within the camera behind a ground glass viewer on which an image of the copy is projected, securing the mask material to the holder to cover portions not to be exposed, removing the viewer and replacing it with a film and placing a half tone screen in front of the film. After placing the mask holder and the mask immediately in front of the screen and film, film is exposed and viewing glass is returned to its original position with the holder. Masking material is then placed over the portions of the image which have been exposed and previously used masking material is removed. Viewer is removed and replaced by film with the mask and the holder directly in front and the film is exposed a second time and developed. Invented by Frank P. Le Tourneau and Henning E. Peterson, Duluth, Minn. Unassigned. Application Feb. 27, 1950. 2 Claims.

2,666,701. OPTICAL SENSITIZATION OF PHOTOMECHANICAL RESISTS are suitable for use in the production of resist images for printing plates. The photomechanical resist composition comprises difurfural-cyclopentanone as the light sensitive material, 3,3'-diethyl-6,6'-dinitro-thiacarbocyanine chloride as a spectral sensitizer for the composition, and cellulose ethyl ether as a vehicle. Invented by William West, Rochester, N. Y. Assigned to Eastman Kodak Co., Rochester, N. Y. 20 Claims.

2,667,415. PROCESS FOR PRODUCING POSITIVE PHOTOLITHOGRAPHIC PRINTING FOILS. In a process for producing lithographic printing plates from light sensitive material having a hydrophilic surface which has been photo-sensitized with a diazo compound of high molecular weight which upon direct exposure to light decomposes into a greasy ink receptive substance, an aqueous colloidal solution of water soluble organic colloid is applied to the sensitized surface to cover same and the surface is then exposed to a light image, water is removed from the colloid layer and the sensitized hydrophilic surface is completely re-exposed to light. Invented by Wilhelm Neugebauer, Weisbaden-Biebrich, and Jakob Barthenheier, Eddersheim am Main, Germany. Assigned, by mesne assignments, to Azoplate Corporation, Summit, N. J. Application Jan. 13, 1949; in Germany Oct. 15, 1948. 9 Claims.

PRINTING PRESSES AND EQUIPMENT:

2,664,821. METHOD OF AND MECHANISM FOR VARYING THE CIRCUMFERENCE OF PRINTING CYLINDERS. A composite, adjustable circumference printing cylinder is composed of a carrier cylinder, a pair of complementary cylinder shell segments having outer arcuate surfaces concentric with the axis of the carrier cylinder, and a flexible printing-plate carrier-sheet wrapped once around the pair of segments. Width of the sheet is less than the overall length of the shell segments. The foreward edges of the segments are spanningly interconnected beyond the side edges of the carrier-sheet for imparting rotary movement to the segments and for tensioning carrier-sheet onto segments for securing them together in driven relationship with the carrier cylinder. Invented by Harold W. Huffman, Hamilton, O. Assigned to The Hamilton Tool Co., Hamilton, O. Application Mar. 13, 1951. 8 Claims.

2,666,372. AUTOMATIC COUNTING AND TABBING MACHINE FOR PRINTING PRESSES is effective for counting and tabbing a predetermined number of sheets delivered to pile at a reception point. The device is portable and may be moved from press to press as the occasion arises, requiring only the plugging in of an electric cable connector at each press. The device remains in overhanging position along an edge of the pile for ready visual indication of the counted and tabbed sheets. Invented by Jacob R. Lauffer, Valley Stream, N. Y. Assigned, by mesne assignments, to Hills-McCanna Co., Chicago. Application May 2, 1950. 9 Claims.

2,666,385. INDEXING APPARATUS FOR PRINTING PRESSES is provided for selectively and automatically rendering any one of a plurality of imprinting arrangements effective in a printing press while the press is in operation. The indexing mechanism may be used to select the desired printing set-up and render it effective. This is accomplished by locking the driving and driven members for a printing cylinder in position to maintain the desired relationships of the printing cylinder with a blanket cylinder. Invented by Robert W. Bender, Johnson County, Kan. Assigned to Richard Zimmerman, Lawrence, Kan. Application Feb. 23, 1951. 3 Claims.

2,666,386. FEEDING DEVICE FOR INK FOUNTAINS is for use with ink fountains of the type employed in printing presses. A simple vertically disposed blade is employed which extends the full interior length of the fountain. The blade is under spring pressure which constantly urges it toward the periphery of the inking roller while the lower edge of the blade follows the inclination of the lower inner surface of the fountain consisting of a fountain blade. Invented by Hans Jovishoff and Ben W. Karp, New York, N. Y. Unassigned. Application Mar. 5, 1952. 5 Claims.

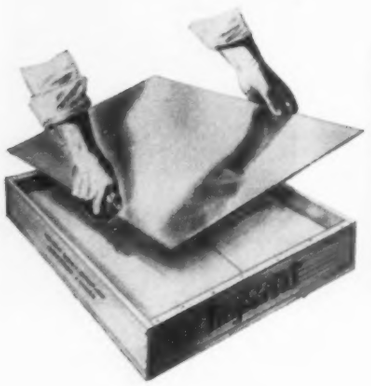
2,666,994. TREATMENT APPARATUS FOR CLOTH AND LIKE SHEET MATERIAL AND EQUIPPED WITH MEANS FOR SHUTTING OFF THE TREATMENT FLUID is applicable to a drier following a printing press and equipped with a treatment chamber for a lengthy sheet or web of paper. A plurality of nozzles are provided with discharge orifices for treatment fluid directed against the web. An exhaust channel is disposed between each of two adjacent nozzles. The web is spaced from and moves past the nozzles and the exhaust channels. A shutter is disposed for movement above the web and adjacent the nozzles, and is operable to closing position between the nozzles and the web and to retracted position away from the web. Invented by Julien Dungler, Basel, Switzerland. Unassigned. Application June 7, 1950. 10 Claims.

2,667,120. CYLINDER INTERRUPTER FOR OFFSET PRINTING PRESSES includes a form and an impression

Imperial

TOP QUALITY ZINCS

-always the same



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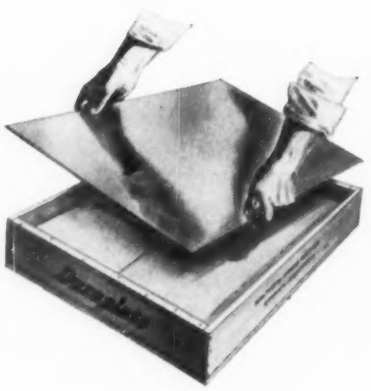
Meets the requirements for all usual applications.



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cylinder having fixed axes of rotation and a blanket cylinder freely rotatable about a shaft having eccentric portions at each end for which bearings are fixed on the machine. A link arrangement is pivoted to a support attached to eccentric portions. An adjustable abutment is slidably mounted on the machine adjacent an end of a fixed abutment. A roller on the link arrangement is engageable with fixed and adjustable abutments for manually rotating support and link to position roller for engagement with fixed abutment. Rotation of blanket cylinder further rotates support and link to cause roller to ride along fixed abutment onto adjustable abutment. Invented by Carl Gustave King, Kenton, England. Assigned to Kaye's Rotaprint Agency Ltd., London, England. Application June 27, 1952; in Great Britain July 16, 1951. 8 Claims.

2,667,121. PRINTING METHOD AND APPARATUS is applicable to intaglio, planographic, relief or other types of printing, and provides a printing element having an image which is to be reproduced. A film of printing liquid is applied to the image, and a high potential unidirectional cyclically pulsating electrostatic field of force is created extending through the image at a printing zone. Material which is to receive the image is brought closely adjacent the printing element in the pulsating field of force at the printing zone so that the electrostatic charges of the field of force effect transfer of the liquid on the image to the material to thus reproduce the image. Invented by William Carl Huebner, Mamaroneck, N. Y. Assigned to The Huebner Co., Dayton, O. Application Oct. 4, 1949. 6 Claims.

NEWS ITEMS

Conference in April—April 7 and 8 are the dates of the next annual conference on Management in the Graphic Arts to be conducted for the benefit of Industry Sponsors by the School of Printing Management at Carnegie Institute of Technology. The conference theme will be *Plant Location, Organization, and Construction*. Subjects presented will include: *Factors to be Considered in Plant Location* by William R. Taaffe, Assoc. Professor of Industrial Administration at Carnegie and Glen U. Cleeton, Dean of the School of Printing Management; *Plant Layout and Workflow* by Dean Robert H. Roy, School of Engineering, Johns Hopkins University; *A Case History in Plant Reorganization* by Jack L. Stuart, Plant Engineer, Ampco Printing Co., Inc., New York, N. Y. In addition, senior students in the School of Printing Management in cooperation with students from the Carnegie Department of Architecture will outline procedures used in developing a working model and architectural renderings for a printing and publishing plant. Required equipment, plant layout, and details of construction will be discussed. Firms not included in the industry sponsor list may send representatives to the conference upon payment of a special fee; no fee is charged for Industry Sponsors. Inquiries should be addressed to Dean Glen U. Cleeton, School of Printing Management, Carnegie Institute of Technology, Pittsburgh 13, Pa.

Pictured at left is Kenneth R. Burchard, Asst. Dean, and Glen U. Cleeton, Dean of the School of Printing Management, Carnegie Institute of Technology.

J. Clifton Carr has been appointed Adv. and Sales Promotion Mgr. for American Type Founders, Inc. He will be in charge of all advertising and promotional activities for both the Elizabeth (N. J.) and Mount Vernon, (N. Y.) Divs. In the Elizabeth Div. are manufactured sheet-fed letterpress and offset presses, process cameras and type. Web-fed and gravure presses are manufactured at the Mount Vernon

CARR

Charles Shoemaker, Mechanical Supt., Bergen (N.J.) Evening Record says:

"G-E Calrod* heaters cut our costs, give us trouble-free stereomelting"

"More than two years ago we installed 18 General Electric Calrod heaters in two of our melting pots," Mr. Shoemaker continues, "and not one of them has given us any trouble. We work them hard, too, melting as many as 120 plates a day."

Economy-minded newspapers everywhere are finding that G-E Calrod heaters give dependable, fast, ***and therefore economical*** stereomelting. Act now to get the same benefits by switching to electric heat with General Electric Calrod heaters.

For help in selecting new stereomelting equipment or planning conversion of present equipment, contact your G-E Apparatus Sales Office. And send for Bulletin GEA-5453, "Melting Stereotype Metals with Electric Heaters." Section 720-125, General Electric Co., Schenectady 5, N. Y.

*Reg. Trademark of General Electric Company.

You can put your confidence in—

GENERAL ELECTRIC

Div. Carr has been associated with the Graphic Arts industry for a number of years, both as a part owner of a printing plant and as a salesman in the printing industry. He graduated from the Carnegie Institute of Technology School of Printing Management and while there held a four year scholarship at the New York Employing Printers Assoc. He comes to ATF from the Westinghouse Electric Corp, Pittsburgh, Pa., where he was Advertising Account Mgr., Industrial Accounts.

Robert A. Hengehold has been appointed manager of the Kalamazoo Branch of General Printing Ink Co. Since 1939, he had been in charge of sales activities for the Kelly Organization in Ohio, Indiana, West Virginia and Kentucky.

Screen Process Printing Course — The Education Committee of the Screen Process Printing Association, Intl., recently completed a course on teaching screen process printing, which is available at no charge, to schools and similar institutions upon request to the Association's headquarters, 549 W. Randolph St., Chicago 6. Bert Zahn of the Glidden Company, Cleveland, Ohio, is chairman of the committee. Other members include teachers of screen process printing in various parts of the country. When a school or institution obtains a copy of the course, the Association also will furnish the name and address of a local screen printer who will assist the instructor in presenting the course, in which are included two parts: Initial instruction directed to the school dealing with the establishment of a screen process printing course; sections devoted to the fundamentals associated with operating a screen process printing shop.

ZAHN

Mueller, Heyer Appointed—Adolph G. Mueller and Harold Heyer have been appointed by Bensing Bros. & Deeney as field service representatives for the south (Florida, Georgia, North and South Carolina) and the middle west, respectively. Mueller had over 12 years' flexographic printing experience with Milprint, Inc., Diaphane Bag Co. and other organizations prior to joining BBD in 1945. A veteran of 20 years' service with Milprint, Inc., Heyer had been superintendent of the Milwaukee branch of Crescent Ink & Color Co. before joining BBD.

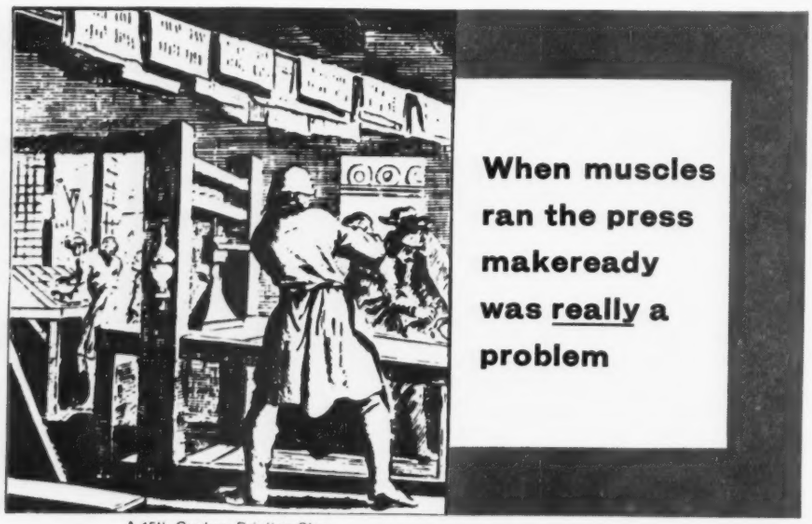
MUELLER HEYER

The New York State Capital District Mechanical Conf. will be held May 9 in Ten Eyck Hotel, Albany, N. Y., according to Floyd Laurenty, President. Information has been sent to plants within 90 miles of Albany. Members of the Board of Directors are William A. Weinlein Supt., Williams Press, Albany; Kenneth Gray, Press Supt., Schenectady (N. Y.) *Gazette;* Fred Oaksford, Mech. Supt., Gloversville (N. Y.) *Leader-Republican;* Jack Burke, former Prod. Mgr., Frank Gannett Newspapers, and Richard M. Seymour, Prod. Mgr., Birkmayer Printing Co.

Peter C. Hitt has been elected Vice Pres. and General Sales Mgr. of the Rossotti Lithograph Corp. Hitt formerly was a director of Whiteford Paper Co., Inc., and executive vice president of its subsidiary, Papers-in-Motion.

HITT

Burlington M. Carlisle, President of A. Carlisle & Co., printing, lithographing and stationery firm in San Francisco, died in his Piedmont, Calif., home Feb. 20, at the age of 67 years after a long illness due to a heart condition.



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Press Make_____ Top Sheet Size_____

Check: ☐ Square Cut ☐ Clipped ☐ Scored

MORAN

Richard H. Moran has been appointed Midwest Sales Representative of Williamson & Company, according to a recent announcement by Eugene Williamson, President. Moran was associated in the company's production department for seven years. His new territory, with headquarters in Chicago, includes northern Illinois, Iowa, eastern Nebraska, Minnesota and Wisconsin.

General Platemakers Supply New Plant –Fast service and increased quality manufacturing of photoengraving equipment and supplies are objectives of General Platemakers Supply Co.'s recent move into a modern, new plant. Located at 5441-55 N. Kedzie Ave., Chicago, the

Pictured here in miniature is the new plant occupied by General Platemakers Supply Co.

20,000 sq. ft., one-story building is designed and constructed to General Platemakers' own specifications. Roomy shipping docks accommodate several trucks simultaneously. Packing facilities have been scientifically designed for accurate, rapid order filling. In addition, two trucks and a special station wagon are available to deliver orders in the Chicago area. According to Pres. Albert R. Kreck, the bulk of incoming orders are shipped the same day. A large section of the plant has been devoted to General's manufacturing division in which are produced General All-Electric Etchers, stripping tables, refrigerated sings, E-Z Plate Cleaning Machines and other equipment. As one of the largest distributors of photoengraving equipment, engravers' metals, and supplies, General has also established a reputation as a leader in photoengraving research, stated Kreck. With the fully equipped laboratory facilities now available in the new plant, Kreck feels General will soon be developing greater efficiency in methods and equipment.

The Western Plant Maintenance Show in the Los Angeles Pan Pacific Auditorium, July 13-15, is designed to aid engineers and plant management in industrial maintenance problems. The exhibition is being arranged by Clapp & Poliak, Inc.

MARTIN

Ideal's Kansas City Office – The Ideal Roller & Mfg. Co. has opened a sales office in Kansas City, Mo., at 210 W. 8th St., Manufacturer's Exchange Bldg. Brodie L. Martin, jr., is Manager of the new branch. Martin, who recently completed a training program at the Ideal factory in Chicago, has served as a captain in the Air Force for the past 11 years. He also attended North Carolina State College.

Appointment of Floyd C. Larson as Intl. Printing Week Chairman was announced recently by President Howard N. King of the Intl. Assoc. of Printing House Craftsmen. Larson replaces Ferd Voiland, Kansas State Printer, who held the position for the last two years. Larson, who will direct the observance of the 1955 Intl. Printing Week, Jan. 16-22, is Director of the U. S. Navy Printing Office and Graphic Arts Testing Center, Great Lakes, Ill. He also is President of the Chicago Club of Printing House Craftsmen.

Schreibeis Retires – Edward B. Schreibeis, General Mgr. of Fuchs and Lang Mfg. Co., Div., Sun Chemical Corp., retired from active service with the company March 1, to become a member of Sun's Pension Club.

G. E. to Expand–General Electric plans to build a plant on a 100A. site in Roanoke County Va., according to announcement by Mgr. C. A. Salmonsen of the company's Industry Control Dept. The transfer from Schenectady, N. Y., to Virginia will release facilities for the scheduled expansion of other departments in line with G. E.'s future plans for the Schenectady Works, Salmonsen said. He also stated that the plant will occupy 600,000 sq. ft. of floor space, and included in it will be a two-story office building.

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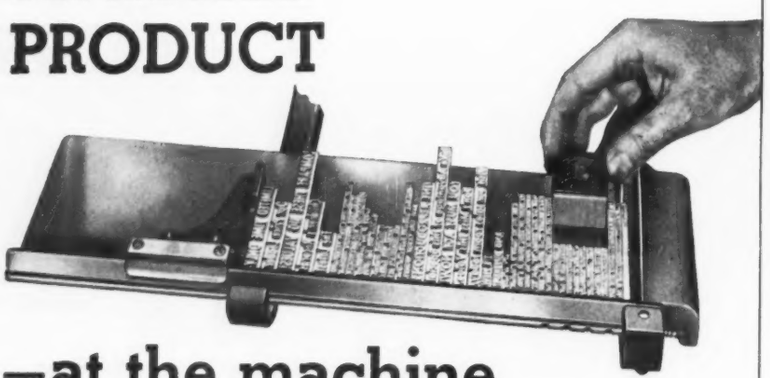
an engineering and development laboratory, an employee cafeteria, dispensary, auditorium, employee store, and manufacturing area of approx. 450,000 sq. ft. In the plant, which is expected to be in operation by late 1957, will be manufactured electrical controls for paper mills, materials handling equipment, and the printing industries.

Bearers of the Green—Seeds of old Erin were implanted circa St. Patrick's Day by the (O')Miller Printing Machinery Co. via packets of Bells of Ireland flower seeds mailed to customers and friends of the company. As a further token of Irish sentiment, the Miller organization also sent a fine-wired replica of the traditional tri-leaved Emerald Isle shamrock.

Burlington Carlisle, jr., was elected president of A. Carlisle & Co., San Francisco, at a recent meeting of the company's Board of Directors. Carlisle succeeds his father, the late B. M. Carlisle. The company celebrated its 100th year in 1952. Carlisle, who has been with the company since 1933, has also been associated with both the San Francisco Employing Lithographers Assoc. and the San Francisco Employing Printers Assoc., of which he is now president.

CARLISLE

FINISHED PRODUCT



—at the machine

Each slug drops to the galley of a Mohr Saw-equipped Linotype or Intertype accurately sawed to length —ready for immediate use "as is."

The finished product is instantly available. Any odd measure matter can be sawed to length right at the machine—run-arounds, initials, contours, ad-guts, job work, corrections.

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Save liner changes, reduce liner investment and expense. Cast slugs to a standard 30 picas and automatically saw them to length. On combination machines a liner can be used for text, while retaining the flexibility of the full 30 picas for display.

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MOHR LINO-SAW COMPANY

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Monotype Association Formed — Announcement of the formation of the Monotype Users Assoc., an organization of owners and users of Monotype equipment throughout the United States and Canada, has been made by its Chairman, Arhtur S. Overbay, President, The Typographic Service Co., Inc., Indianapolis, Ind. The Association is intended to act as a link between Monotype users and the Monotype company. MUA trade association chapters have been formed, to meet with other Graphic Arts organizations during their conventions and regional meetings. Matthew Commanday of Commanday Brothers, New York, N. Y., is Chairman of the Intl. Typographic Composition Assoc. Chapter of MUA; Oscar Hoffman of Superior Typesetting Co., St. Louis, is Vice Chairman, and Frank Sherman, Exec. Director of ITCA, is Secretary-Treasurer. E. C. Johnson, Pres. of J. M. Bundscho, Inc., Chicago, is Chairman of the Advertising Typographers Assoc. Chapter.

MURPHY

Iowa Mechanical Conf. — The 27th annual meeting of the Iowa Newspaper Mechanical Conf. will be held May 22-23 in Hotel Lafayette, Clinton, Ia., according to announcement made by Conference Pres. Robert H. Murphy, Composing Room Foreman, Waterloo (Ia.) *Courier*. Composing room, press and stereotype personnel, linecasting machinists and engravers will have their various group meeting May 23. Other officers are Vice Pres., Bert DuSold, Mason City (Ia.) *Globe-Gazette;* Second Vice Pres.; Leo Sullivan, Marshalltown (Ia.) *Times-Republican;* and Secretary-Treasurer, Paul Kamler, Clinton *Herald*.

New Jones Graphic Product Co. Plant—The manufacturing division of Jones Graphic Products Co. will be located at 720 Vinton St., Toledo O., in a 6000 sq. ft. plant currently under construction. Chemicals, including sensitized coating solutions used in photographic etching, engraving and lithography will be produced in the new plant, which will be under the management of Norman C. Bridwell. Ernest E. Jones is company president.

Promotion of Edmund G. Bartlett, jr., to sales supervisor of printing products was announced recently by Minnesota Mining & Mfg. Co. Bartlett joined 3M in 1952 as a salesman on the West Coast. Later he was promoted to home office sales trainer in St. Paul, Minn. In his new position he will be responsible for printing products sales in eastern Pennsylvania, Maryland, Delaware, southern New Jersey, Washington, D. C., Virginia, North and South Carolina, Florida, Georgia and Alabama. He will headquarter at the 3M Philadelphia branch office.

Printing Industry of Ohio's 1954 Conf. —Saturday, May 8, has been selected as the date for Printing Industry of Ohio's annual conference, to be held in Columbus' Deshler-Hilton Hotel. Acceptances to appear have been received from Prof. Kenneth Burchard, Asst. Dean of Carnegie School of Printing Management,

who will discuss *What's New in Our Industry*, and R. C. Trundle, Pres., Trundle Engineering Co., *Current Business Trends*. Also included in the program will be a discussion of the recently developed Graphic Arts Insurance program for employees covering Sick and Accident, Surgical, Hospitalization, and Group Life Insurance, and a consideration of the recently large increase in PIO's Workmen's Compensation Insurance.

HIGGINS

Sigfried Higgins Joins Williamson — Sigfried Higgins recently joined the sales development and quality control department of Williamson & Company, it was announced by Eugene Williamson, President. Higgins, who had been with the Bakelite Corporation since 1911, has been instrumental in the development of plastic matrix, plate constructions and manufacturing procedures.

Talk Presented — A discussion entitled *A Modern Art, Five Centuries Old* was given by Harold Tribolet recently before the Milwaukee-Racine Club of Printing House Craftsmen. The subject included hand binding and hand tooling of books. Tribolet is manager of the Extra Binding Dept., R. R. Donnelley & Sons Co., Chicago.

Great Lakes Conference Report—A 10 page report has been prepared of the 9th Annual Great Lakes Newpsaper Mechanical Conference held last January in Indianapolis. The report contains a summarized version of the Conference's educational meetings, registration list of those attending, contributing manufacturers and suppliers, and 1954-55 officers and directors. The 1955 Conference is to be held at the Sheraton-Cadillac Hotel, Detroit, January 16-18.

The French Graphic Arts Fair will be held this year in Paris at the Grand Salon, Champs Elysees, May 1-12.

Linotype's Fairfield Medium is being used in the Canadian edition of *Reader's Digest*, according to an announcement by the Mergenthaler Linotype Co. Other publications which have changed recently

FAIRFIELD MEDIUM maintains *that subtle degree of interest* and variety characteristic of the finer

to Fairfield Medium include *Esquire* and the *Harvard Business Review*. Described as a contemporary face with old style characteristics, Fairfield Medium was redrawn from the somewhat lighter Fairfield to provide the weight which, according to Mergenthaler, is desirable for many classes of printing. Sponsor claims it prints well on all paper stocks by all printing methods. It was designed for Linotype by Rudolph Ruzicka. Specimen lines of the 10 pt. size of the face are shown here with italic and small caps.

Fairchild Districts—A reorganization of Scan-A-Graver sales and service districts was recently completed by Fairchild Camera and Instrument Corp. The Atlantic states from Connecticut to Virginia have been reorganized into the East Coast District under Chandler Abbott, with a district office in Walpole, Mass. The Southwest area and the south Atlantic states are included in the Southern District managed by Wallace Douglass. Headquarters presently is in Dallas, Tex., but may be moved in a few months. The West Coast District has been enlarged to include New Mexico, Arizona and Colorado. Manager is Eino Heronen whose headquarters are in Pasadena, Calif. A District Customer Engineer Mgr. has been assigned to each district. They are: Frank Chapman, West Coast; Ruben Lee, Southern; Arthur Lawrence, Mid-West, and Austin Mayberry, East Coast.

Natl. Safety Council Award Winners—Award winners for the 1953 Contest Year were announced recently by the Natl. Safety Council. Winners of Perfect Record Certificates, included the U. S. Government Printing Office, Dept. of State Service Office, Washington, D. C.; Republic Steel Corp., Printing and Stationery Dept., Youngstown, O.; The Pullman Press, Chicago. Certificates of Achievement for Reducing Injuries were awarded to American Greetings Corp., Cleveland, O.; J. W. Clement Co., Buffalo, N. Y.; Gospel Trumpet Co., Anderson, Ind.; The Lord Baltimore Press, Baltimore, Md., and the U. S. Government Printing Office, Chicago Field Service Office.

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COMBINO—An extremely durable clean printing laminated blanket. Gauges .062", .083", .093".

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FOUNDATION—A firm, durable, oilproof under packing laminated by du Pont with "Neoprene." Gauges .032", .040", .053" to .085", .120".

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CANADIAN SALES AGENTS: ROSS WHITEHEAD & CO. LTD. MONTREAL, CANADA

New Plant Addition — The Reliance Electric and Engineering Co. has placed contracts for a new plant addition to its Ashtabula (O.) Div., according to a recent announcement by J. W. Corey, Pres. Arthur E. Rowe and Associates are architectural engineers on the project.

Carnegie Summer Courses — Six-week summer school courses in all phases of printing will be offered at Carnegie Institute of Technology, June 28-Aug. 7, according to an announcement by Kenneth R. Burchard, Asst. Dean of the School of Printing Management. Individual courses in planning, design, estimating, cost accounting and management will be offered, as well as skill-development courses in typography, presswork and photolithography. Advance applications may be filed with the Director of Summer Sessions, Carnegie Institute of Technology, Pittsburgh 13, Pa.

Open House at Ohio Litho—The Ohio Lithographic Co. recently held open house in its new plant, 1134 N. Westwood Ave., Toledo, O. The company produces catalogs, broadsides, posters, bulletins, forms, checks, booklets, direct mail pieces, folders, reprints, stationery and speciality paper product orders.

Porter Now with Columbia — William H. Porter, former Composing Room Supt. of the New Haven (Conn.) *Register*, has been made General Mgr. of *Columbia* (Knights of Columbus publication), and the order's printing plant in New Haven. Aside from his fraternal activities, Porter is an ex-President of the New England Mechanical Conference, a member of the New Haven Craftsmen's Club and has served on various committees for the ANPA Mechanical Dept.

Hershey Named by Dayton — A. L. Freedlander, Pres. of Dayton Rubber Co., announced that J. D. Hershey has been appointed Director of Sales Promotion and Advertsing. R. L. Wetzel, formerly in charge of both advertising and public relations, has been named Director of Public Relations.

Heating Panel Distributors — Herbert Products, Inc., was recently named Eastern distributor for Corning Heating Panels which are designed for use as drying and heating units in the Graphic Arts. It is claimed the Corning Radiant Panel provides maximum absorption and temperature uniformity. The panels are available in a wide range of watt densities.

Business Yesterday, Today, Tomorrow was the topic of a talk by Duane S. Salisbury, president of the Carter Company, photoengravers, at a recent meeting of the Detroit Club of Printing House Craftsmen. Other recent activities of the Detroit Club included a plant tour of the Graphic Arts Corp. of Ohio, Toledo, O.

Branch Office Reopens—Western Newspaper Union has announced the reopening of a branch office at 432 Yale Ave., No., Seattle, Wash., which will operate under the name of Harry W. Brintnall Co. Linn S. Megill, former manager of the Portland (Ore.) office, will be Resident Mgr. in Seattle. The territory to be served will include Oregon and the western part of Washington.

Morrison Fire — A $150 thousand fire recently damaged the factory building, equipment and supplies of the Morrison Company plant, Milwaukee, Wis. According to George Morrison, President, the company now has resumed normal operation

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There is indeed, an easier way to show a profit in YOUR plant. We invite you to contact us for competent information on what's best to help you prosper. If you're thinking of offset, or if you mean to expand in it, you'll do well to look us up for the right equipment for now, and for the future. If you want to know about the money-makers in letterpress, we can talk about our fast, low-cost automatics. If you're a publisher—send for our lists of type-setting equipment, mats, and pressroom apparatus. If you're missing the profits you ought to make right in your own bindery—look what we can do for you:—the best there is in automatic paper cutters, folding machines, wire stitchers, paper drills, corner cutters, embossers, etc.

1—Kelly Press No. 2, 24x35, rebuilt $7500
2—B Kelly Presses, 17x22, No. 5860, No. 5856, E.D., good operating condition ea. 2750
2—Miller Simplex Presses, direct drive motor, rebuilt ea. 6500
3—Miller High Speed Presses, swing back feeders, good operating condition ea. 1500
1—Miehle Vertical V-50, good operating condition 4975
1—Miehle Horizontal, 22x28, straightline delivery, rebuilt 7000
1—Pony Miehle, No. 17265, with D.S.P. and E.D., good operating condition 3750
1—Post Envelope Press 350
1—Post large model Envelope Press 450
4—Kluge units, 10x15, 6 roller, good operating condition ea. 1500
1—Kluge unit, 12x18, rebuilt 2000
2—Kluge, 12x18, Double Fly Wheel, for printing diecutting, rebuilt ea. 2500
1—No. 5 Babcock automatic unit D.S.P., 30x43, and E.D. 4500
4—C & P Craftsmans with Rice automatic feeders, 10x15, good operating condition ea. 1400
2—C & P Craftsmans with Rice automatic feeders, 12x18 ea. 1700
5—Multiliths, model 1250, light tan, 10x14 ea. 1000
1—Multilith, Model 1200, 10x14 700
3—Multiliths, Model 1327, 11x17 ea. 1350
1—Davidson, Model 816, 10x14 950
3—A. T. F. Webendorfer Chiefs, 17x22 ea. 4500
2—Harris Model L.S.B., 17x22 ea. 5000
2—Harris Model E.L., 22x34 ea. 7500
1—Vandercook Full Automatic Power Model 325G, 24x47, Proof Press 1750
1—Vandercook, Model 2, 20x28 400
1—Vandercook 32, self-inking, 15x28 400
1—Vandercook, Model 17, 17x25, self-inking 600
1—50" 10Z Seybold Automatic Clamp Paper Cutter 3850
1—Dayton Seybold 36" Automatic Clamp Paper Cutter, rebuilt 2000
1—Blue Streak Linotype, Model 8, Series No. 55581, electric pot, first class operating condition 5500
1—52" Oswego Power Hand Clamp Paper Cutter 1250
1—Model H Intertype, Serial No. 12269, electric pot, Mohr Saw 3000
1—Model H Intertype, Serial No. 12270, with quadder and self-centering device, Mohr Saw, electric pot 3500
1—Model C-3 Intertype, Serial No. 8607, late style electric pot, in good operating condition 3500
1—Model C-3 Intertype, Serial No. 8609, late style electric pot, with Mohr Saw 3750
1—Model C-2 Intertype, Serial No. 9051, electric pot 3250
1—Model C-2 Intertype, Serial No. 13221, late style electric pot, with Mohr Saw 4000
1—Model 32 Blue Streak, Serial No. 54787, late style electric pot, self-centerer and quadder, Thermo blower, Mohr Saw, Margach Feeder, 6 Pocket Mold Disc, 8 fonts of mats for display, single and two letters, 6 extra split magazine 7500
2—Chemco 24" Automatic Cameras with Goerz Lenses ea. 1850
3—A-3 Trim-O-Saws, with Router and Jigs, 28x28 table ea. 400
1—Sheridan 4-A Embossing Press, 15x20, with 3-draw Peerless golf leaf attachment, electric head, sliding bed 3000
1—Sheridan Arch Embosser, 14x15, 3-draw gold leaf attachment, electric head, thermostat 1850
1—Standard No. 9, 14x20, with 3-draw gold leaf attachment and printing ink attachment (send for circular) 4000
1—Cleveland Model O, 19x25, Folder with Suction Power Feeder, rebuilt 2000
1—Cleveland Model B, 26x40, Folder with continuous Feeder, in good operating condition 1850
1—Boston, Model 17, Wire Stitcher, with 6 heads 850
3—Rosback 30" Rotary Pin Hole Perforater, equipped with 4 heads ea. 1000
1—Rosback 36" Rotary Perforator, equipped with 8 heads 1500
1—Rosback Hi-Pro Power Paper Drill 400
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ABC of Offset

(Continued from Page 46)

see that as the detail becomes more distinct, the contrast becomes less evident.

Factor 3—Imbalance

There is a lack of sameness existing within the accompanying illustrations Fig. 12 and Fig. 13. In Panel 3 (Fig. 12) each line of type is the same design. There is no similarity of size, shape, weight or density among any of the individual characters, *i.e.*, A and a; B and b; M and m; N and O.

From the top downward the type size is reduced and with each step of reduction, a relative number of characters and

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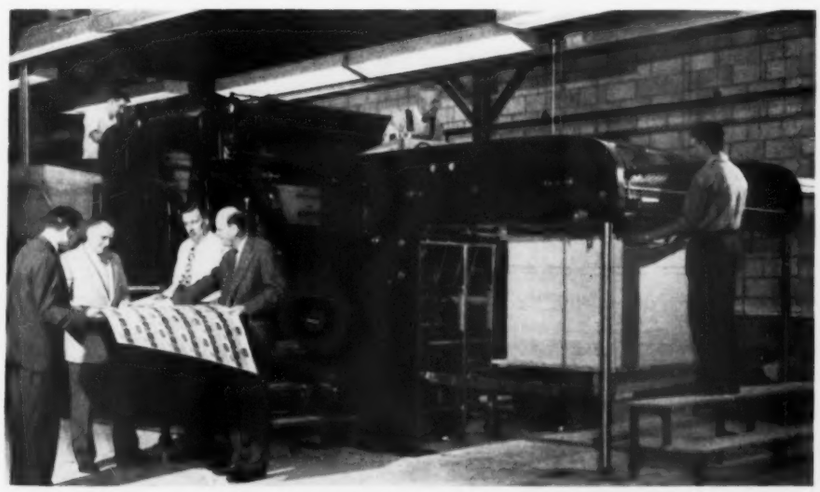
spaces must be added to fill each succeeding line. Each line of type is its own size, readily identified by point measurement from 72 pt. to 12 pt.

Panel 3 is exact size in the illustration.

Gray Scale

The Gray Scale in Panel 2 (Fig. 12) is same size, with a halftone screen ruling of 133 lines per in. There are exactly the same number of dots comprising the 50% tint as there are at 10, 30, 60, or 90%, or any of the others.

In each successive step, the dot size changes as does also the shape and character. Each successive step on either side of the 50% value has its counterpart on the opposite side, *i. e.*, the small black dots making up the 10% step has its counterpart as white dots in black at the designated value of 90%.



Expansion by Canadian Firm—Col. Tom Lawson, President of Lawson & Jones, Ltd., London, Can., has revealed expansion plans aimed at doubling the company's production within four years. The initial step in the program was the installation of a 52 in. by 76 in. Harris two-color offset press. The firm now operates 30 offset presses and 60 letterpresses. Lawson & Jones produce folding cartons, commercial labels and wrapping paper, counter display containers, booklets, catalogs, stationery, maps, general advertising literature, etc. Facilities are also available for embossing, varnishing, bronzing and die cutting. The London plant extends nearly the full length of a large city block, with the first unit of a new plant completed and in operation. Examining a press sheet beside the new Harris press are (from left to right) Alex Westman, Supt.; George McCready, Plant Mgr.; Jack Squire, Pressroom Foreman; and Col. Lawson. From feeder to delivery end on the press are Bill Tilford, Dom Morkin and Bob Read.

Halftone Panel

In Panel 1 (Fig. 12) as also in Fig. 13, we are forcibly impressed by the sameness of the checkerboard pattern of 50% tint value. We see too, a progressive enlargement or reduction of dot sizes comparable to a similar variability in Panels 2 and 3 (Fig. 12.)

There is this difference. Instead of the same number of dots in each section as in Panel 2, the dot count changes. The smaller and finer the dots, the more numerous they are. As the dots become larger, they are correspondingly fewer in number. The balance in the effect of gradation is altered by reason of the changes in screen rulings or lines per inch.

Factor 4—Color Intensity and Dispersion

At the bottom of Panel 1 and at the top of Panel 2 (Fig. 12) we see that in both instances there is greater dispersion

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of color. This is an important observation. We learn that when the dots become larger with a single screen ruling, more color dispersion results. The reverse is true when the screen ruling changes as shown in Panel 1, and also in Fig. 13. Here we see that as the dots become larger as at 55 l.p.i., the color is lighter and weaker while at 300 l.p.i., there is a greater concentration of color and color dispersion.

These few cited examples should be evidence enough to show why the dot etcher must think in the past as well as in the future even while he works on the job in the present.

More of this next month.

(To Be Continued)

Materials Handling

(Continued from Page 54)

Conveyors are also used and where heavier material is involved such as is used for boxes, etc., a vacuum system may not be suitable so that conveyors for transportation of the waste to the central baling point are preferable. Where the quantities are small in either case, the waste is placed in some kind of convenient container and taken to the baling machine, perhaps by power truck.

In plants having both paper trimmings and heavy waste, pneumatic tubes are used for the former and one of the other means of handling for the heavier material. This is true at the card manufacturing department of the International Business Machines Corp. plant at Endicott, N. Y., as will be explained in detail later.

Actually a fair amount of planning is required in the layout of waste collecting equipment to permit of automatic pick-up by vacuum or by conveyor. Some concerns go to the trouble of installing more than one baling machine and a switching system of handling trim for sorting purposes so that the contents of each bale will be uniform. Other large concerns do not sort their waste. Just when it is desirable to sort doubtless depends on local conditions and must be determined in each case.

In one of the very large periodical publishing plants there is a comprehensive conveyor system on which the waste trimmings are collected and delivered to chutes leading into a hopper over a large sized baler. This is shown in Fig. 16. The layout is designed for continuous operation and turns out bales weighing around 800 lbs. A traveling electric hoist is provided for handling the bales, and placing them to one side. Frequently a fork lift truck is used to remove them to storage or place them in freight cars.

Obviously, it is highly desirable to remove waste before it accumulates to any extent as it is a fire and accident hazard, and is not conducive to good plant housekeeping. In addition there is the economic aspect as in many printing plants the sale of the waste is an item of some importance in the overall cost picture.

(To Be Continued)

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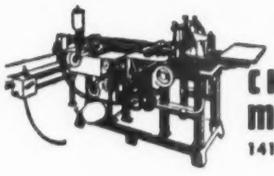

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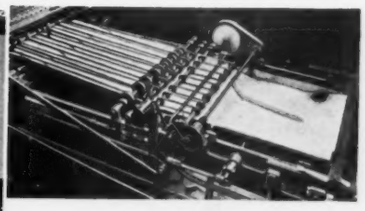

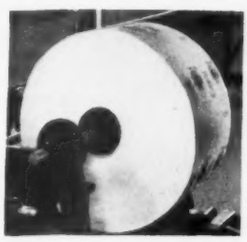

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Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1954 Conf., Hotel Jefferson, St. Louis, Mo., Oct. 11, 12, 13. Pres., D. H. Murnik, Oakland National Engraving & Gravure Co., 307 Tenth St., Oakland 7, Calif.; Exec. Secy., Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf. — 1954 Conf., Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 7, 8, 9. Chairman of the Committee, Joseph E. McMullen, Prod. Mgr., Milwaukee (Wis.) *Journal;* Mgr., ANPA Mechanical Dept., Richard E. Lewis, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — 1954 Conv., Hotel Hershey, Hershey, Pa., Oct. 18, 19, 20. Pres. Sidney Satenstein, American Book-Stratford Press, Inc., 75 Varick St., New York 13, N. Y.; Secy., Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1954 Conf., William Penn Hotel, Pittsburgh, Pa., June 11, 12. Pres., Robert Edgar, Pres., Neyhart Printing Co., 244 Blvd. of the Allies, Pittsburgh, Pa.; Secy-Treas., Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, Ohio.

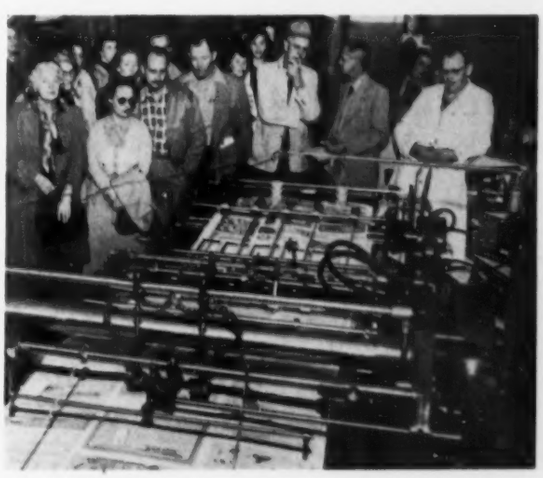
Graphic Arts Trade Assoc. Executives — Secy., Arthur L. Johnson, Graphic Arts Assoc. of Milwaukee, 704 W. Wisconsin Ave., Milwaukee 3, Wis.

Gravure Technical Assoc.—1955 Annual Meeting, Drake Hotel, Chicago, Ill., February. Exact dates to be announced later. Pres. John E. Hazel, New York *Daily News*, 700 Pacific St., Brooklyn 17; Secy.-Treas., Frank Sportelli, International Color Gravure, 39 W. 60th St., New York 23, N. Y.

Great Lakes Newspaper Mechanical Conf. — 1955 Conf., Sheraton-Cadillac Hotel, Detroit, Mich., Jan. 16, 17, 18. Pres., Frank Dassori, Pressroom Supt., Detroit *Times;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. — 1954 meeting, Hotel Custer, Sept. 25-26, Galesburg, Ill. Pres. Eldon L. Martin, Galesburg (Ill.) *Register-Mail;* Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.; Chairman Supplymen's Committee, Joseph D. Goggin, Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago 39.

Intl. Assoc. Electrotypers & Stereotypers — 1954 Conf., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 28-Nov. 1.



Miller Press Operated at Florida Fair — Pictured here are some of the estimated 900,000 persons who watched production of four color labels on a new Miller 21 in. by 28 in. SW Single-Color Letterpress at the recent Florida State Fair. The press was set up at the fair by Southeastern Printer's Supply Co., southern representatives for Miller Printing Machinery Co. The exhibit was sponsored by Florida Grower Press., Inc.

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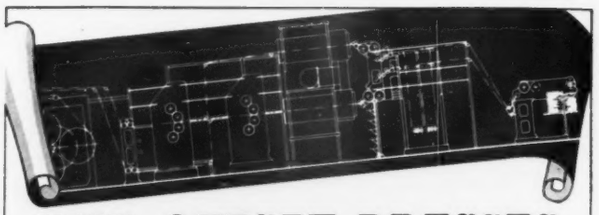

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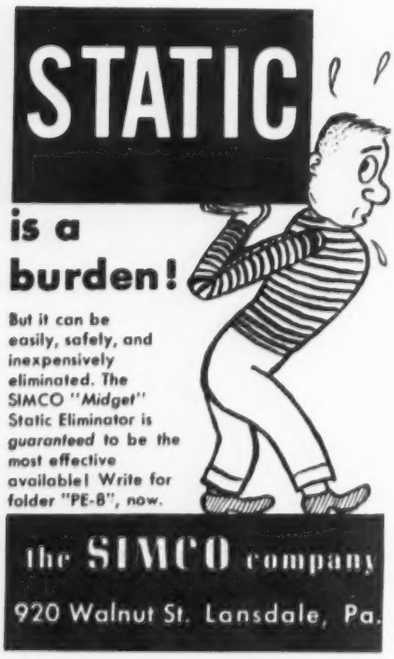
1954 Spring Conf., Sheraton-Gibson Hotel, Cincinnati, Ohio, April 6, 7. Pres., Carl N. Becker, Becker Electrotype Co., 144 N. Water St., Milwaukee 2, Wis.; Exec. Secy., A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1954 Conv., Bellevue-Stratford Hotel, Philadelphia, Aug. 8-11. Pres., Howard N. King, The Maple Press, York, Pa.; Exec. Secy., Pearl E. Oldt., Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Ray Miller, 300 Valley View Rd., Media, Pa.

Intl. Graphic Arts Education Assoc.—1954 Conf., University of Colorado Campus, Boulder, Colo., July 4-8. Pres., Patrick F. Boughal, New York School of Printing, 461 Eighth Ave., New York 1, N. Y.; Exec. Secy., Samuel M. Burt, 719 Fifteenth St. N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1954 Conv., Hotel LaSalle, Chicago, Sept. 23, 24, 25. Pres., Harold L. McGirr, Morris & Walsh Typesetting Co., Inc., 129 Lafayette St., New York, N. Y.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.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Iowa Daily Newspaper Mechanical Conf. — 1954 Conf., Hotel Lafayette, Clinton, Ia., May 22-23. Pres., Robert H. Murphy, Comp. Room Supt., Waterloo (Ia.) *Courier;* Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—Secy.-Treas., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.; Sec'y., William Bray, Missouri Press Assoc., Walter William Hall, Columbia, Mo.

Lithographers National Assoc. — 1954 Conv., The Greenbrier, White Sulphur Springs, W. Va., June 8, 9, 10. Pres., William H. Walters, President, United States Printing and Lithograph Co., Old Country & Glen Cove Rds., Mineola, L. I., N. Y.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf. — 1955 Conf., Atlantic City, N. J., March (hotel and dates to be announced.) Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 304 Telegraph Bldg., Harrisburg, Pa.

National Assoc. of Litho Clubs — 1954 Conv., Hotel Biltmore, New York, N. Y., May 7,8. Pres., Andrew Balika, Supt., Copifyer Lithograph Corp., 1771 E. 24th St., Cleveland; Exec. Secy., Sol D'Allesandro, Supt., Horn & Norris, Inc., 2729 Prospect Ave., Cleveland.

National Assoc. of Photo Lithographers—1954 Conv., Hotel Statler, New York, N. Y., Sept. 22-25. Pres., A. J. Fay, 75 Varick St., New York 13, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc. Pres., Richard B. Tullis, Pres. Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Div.—Gen. Chairman, Peter J. Bernard, Director of Personnel and Safety, H. Wolff Book Mfg. Co., 508 W. 26th St., New York 1, N. Y.; Staff Rep., Fred Lubet, National Safety Council, 425 N. Michigan Ave., Chicago 11.

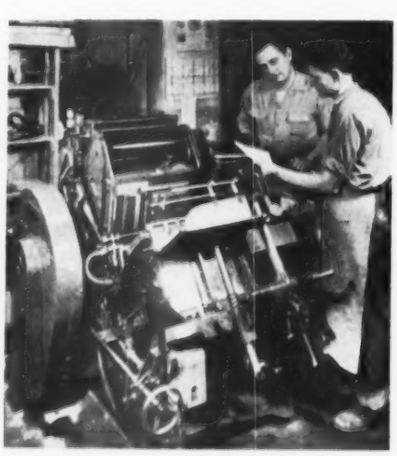
New England Mechanical Conf. — 1954 Conf., Hotel Statler, Boston, Mass., Oct. 16-17. Pres., J. William Powers, Mech. Supt., Burlington (Vt.) *Free Press;* Secy.-Treas., Walter C. Crighton, Comp Room Supt., New London (Conn.) *Day.*

Northwest Mechanical Conf.—Pres., John R. Copeland, Production Mgr., Minneapolis (Minn.) *Star* and *Tribune;* Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf. — 1954 meeting, Multnomah Hotel, Portland, Ore., Sept. 17-19. Pres., Wm. E. Gibbons, Prod. Mgr., Portland (Ore.) *Journal;* Secy., Don Newhouse, Prod. Mgr., Portland (Ore.) *Oregonian;* Chairman Supplymen's Committee, Intertype Corp., Portland, Ore.

Printing Industry of America—1954 Conf., Hotel Statler, Detroit, Mich., Nov. 15-19. Pres., James J. Rudisill, Rudisill & Co., Lancaster, Pa.; Gen. Mgr., James R. Brackett, 719 Fifteenth St., N.W., Washington 5, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — 1954 annual meeting, Kalamazoo, Mich., May 12-14. The 1955 meeting to be held on May 12-13, city and hotel to be announced later. Pres., Edward J. Triebe, Vice Pres., Kingsport Press, Kingsport, Tenn.; Exec. Secy., John Reed, 719 Fifteenth St., N.W., Washington 5, D. C.



Installs Thompson-British Platen Press —Harris-Seybold Co. has announced the installation of a Thompson-British automatic platen press at The Dexter Press, Chicago. Shown at the press, from left to right, are Shop Foreman W. G. Lund and Pressman H. W. Bassett. Features of the press include straight line feed, flat run out delivery, built-in dry spray, collapsible ink fountain, wash-up device, sprocket-and-chain-driven form rollers, variable speed drive, knob-set impression adjustment and automatic stop.

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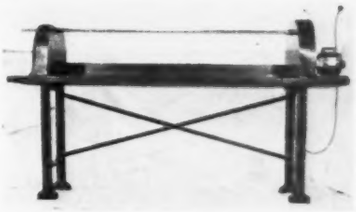

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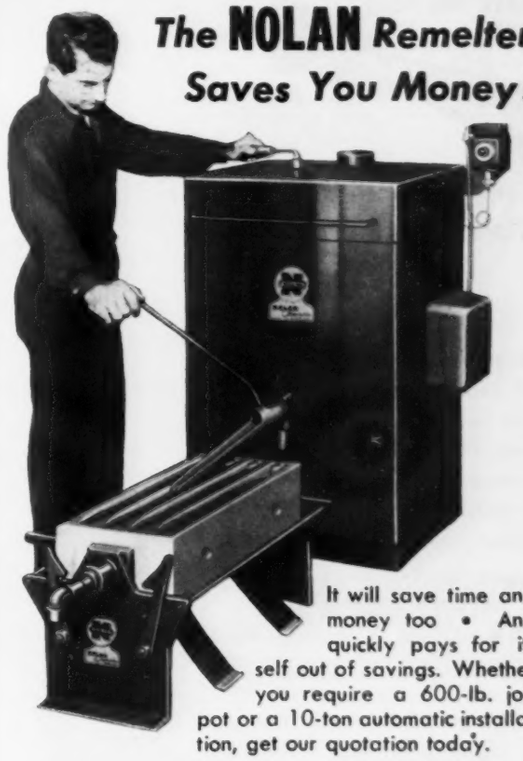

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Screen Process Printing Assoc. — 1954 Conv., Jefferson Hotel, St. Louis, Mo., Oct. 30-31, Nov. 1-2. Pres., Stanley R. Snider, Sniders' Poster Process Co., 2638 St. Louis St., New Orleans, La.; Exec. Secy., Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.— 1954 Conf. tentatively set for Aug. 23, 24, Montgomery, Ala. Exact dates and hotel to be announced later. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Mfrs. and Suppliers Group to be announced later.

SNPA (Western Div.) Mechanical Conf.— Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.

Technical Assoc. of the Graphic Arts— 1954 Conv., Schroeder Hotel, Milwaukee, Wis., May 10, 11. Pres., Richard F. Shaffer, Pratt Institute, 215 Ryerson St., Brooklyn 5, N. Y. Secy.-Treas., George S. Hammer, 8 Cherry St., Marblehead, Mass.; Convention Chairman, J. L. Roser, Milprint, Inc., 4200 N. Holten St., Milwaukee 1, Wis.

Equipment & Supplies

(Continued from Page 26)

are the half truck and half platform, storing and stacking transports, crowbar on wheels, skids and stacking pallets, bin and tray sections, shop box racks and stacking units.

A variety of applications are suggested for each of the units in the booklet. Complete descriptions as well as specifications are included in the general information. A copy of the booklet is available by asking for PEE No. 102 in your request.

Insta-Lith Printing Inks

Insta-Lith lithographic printing inks have been announced by Howard Flint Ink Co. It is stated these inks are equally excellent on presses of all sizes and speeds, from the largest multi-color to the smallest Multilith press. Sponsor also states trapping is certain and drying is quick and sure; the halftone dots are sharp and on coated papers print with smooth laying semi-gloss finish. Red, yellow, blue and black may be used for printing color process work. Red, blue and black are available for regular work. Further information will be furnished, but please mention PEE No. 99 in your request.

Voltage and Current Measured at Line Outlet

The Amprobe Energizer Model A-40 makes possible instant current and voltage readings at the wall outlet when used in conjunction with a snap-around volt-ammeter, states Pyramid Instrument Corp. The accessory is provided with receptacles for measuring line voltages at the outlet under actual load conditions while the appliance is connected to the line. Heavy duty construction increases the capacity to 25 amps. for direct readings and 10 amps. for 10x sensitivity readings, according to the sponsor. The Energizer also serves as a split plug to

Checking appliance current at receptable with aid of Amprobe Energizer. Accessory was developed by Pyramid Instrument Corp.

divide double-conductor line cords at the outlet for a snap-around ammeter reading.

In use, the Amprobe Energizer is first plugged directly into the outlet receptacle. The motor or appliance line cord is then plugged into one of two current-reading positions — either direct ampere reading or 10x sensitivity. The current reading is taken by snapping the jaws of the Amprobe snap-around volt-ammeter through the Energizer ring. Voltage readings are taken by plugging the voltage test leads into the voltage receptacles provided on the Energizer. Additional information is available by asking for PEE No. 98 in your request.

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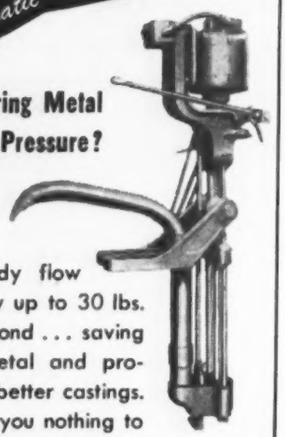

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Depth Microscope Bulletin

A microscope designed for measuring the depth of halftones in engravings, stereotype mats and plates, electrotypes and plastic plates is the subject of a four page bulletin prepared by Alico, Incorporated. In operation, the microscope is placed above portion to be measured and built in light adjusted to suit color of plate or mat. Focus is then made to upper surface and dial set to zero. Depth is indicated directly on a dial after focusing to the lowest portion of the halftone. The dial is calibrated in thousandths and tenths of thousandths inch. A copy of this bulletin may be obtained by requesting PEE No. 100.

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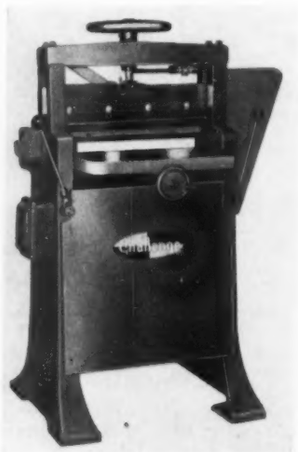
Linotype Universal Fractions

Mergenthaler Linotype Co. has developed universal sans serif fractions for use in technical catalogs and books, it is reported by Jackson Burke, Linotype Director of Typographic Development. Linotype's fractions method employs 28 characters and uses diagonal strokes uniformly. All may be keyboarded. The sans serif face employed is contemporary in style. Sponsor claims figure size and legibility have been increased. A small superior figure placed before any single-numerator character converts it to the double-numerator value desired. Please specify PEE No. 120 when writing for additional information.

Semi-Hydraulic Paper Cutter

The Challenge Machinery Co. has announced a 19⅜ in. Semi-Hydraulic Power Paper Cutter. Known as the Style 193 Cutter, the knife is operated by



hydraulic power while the clamp is operated by a hand wheel. A safety feature provides that both hands of the operator must be on the controls to complete a cut. Other features include solid center support, Duplex measuring tape and positive back gauge. Additional details may be obtained by mentioning PEE No. 121 in your request.

Floating Nozzles Bulletin

Wale Floating Nozzles are designed to prevent mis-feeds of paper on printing presses and folding machines. The units are described in an eight page bulletin prepared by the Roller Press. Included are illustrations with close-up views of the nozzle's wide horizontal floating lip which provides full sheet separation. The nozzles are available in four types as follows: Front blast-front lift; front blast-air wheel; continuous feed; and rear blast-rear lift. According to the sponsor, the nozzles are designed to operate on most kinds of automatic paper feeders. Installation of the nozzle on presses and folders are also shown in the bulletin. Copies may be obtained by requesting PEE No. 94.

Printing Equipment Engineer Classified Ads may be found on Page 71.

Laboratory Apron

An Exylin laboratory apron, reported by McCoy, Jones and Co., Div. of General American Transportation Corp., is designed principally for laboratory and photographic dark room use. It is made of waterproofed, plastic film which may be cleaned with a damp cloth and is claimed to be resistant to wear, oil, grease, stains and acids. Please mention PEE No. 116 when writing for further information.

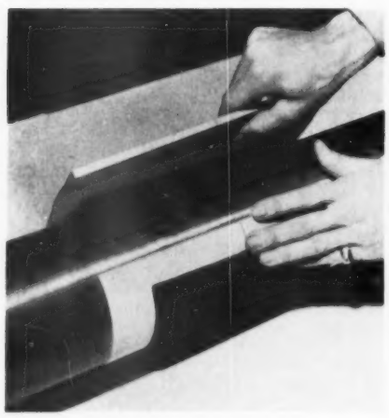
Starch Booklet Available

A 56 page booklet, *The Story of Starches*, has been issued by National Starch Products Inc. In it are discussed the methods of starch production, speciality starch creation, starch derivatives and handling. A copy may be obtained by mentioning PEE No. 106 in your request.

Improved DrawLok Cylinder

The improved DrawLok cylinder provides for the mounting of rubber printing plates on a draw sheet and then attaching the draw sheet to the cylinder, according to Magnat Machinery and Pattern Co. Sponsor states this method of handling rubber plates is particularly adapted to combination runs, small jobs, and date line and imprint changes.

It is claimed the DrawLok cylinder helps prevent the plate from becoming stretched and misaligned. Plates are attached to the draw sheet by means of adhesives or vulcanized to the sheet at the time the plates are made. The flat draw sheet (with mounted plate) is



wrapped around the cylinder, and its two ends are inserted in the DrawLok cylinder joint which extends lengthwise along the cylinder. A control knob is provided for tightening the joint and securely locking the mounted plate in place.

The draw sheets are available in brass, copper and aluminum to fit all sizes of DrawLok cylinders. Please request PEE No. 123 if you desire additional information.

Fork Truck Folder

An electric powered, 10,000-lb. capacity fork truck is described in a folder released by The Elwell-Parker Electric Co. A number of illustrations show the truck

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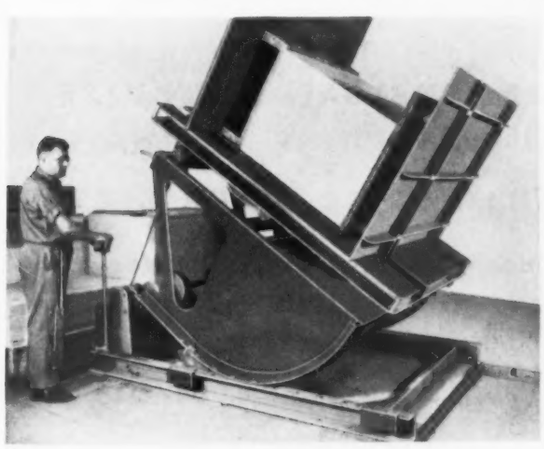
in a variety of applications. The folder contains design specifications, operating and construction features and applications. A page is devoted to analysis of major components. Please request PEE No. 111 for a copy.

Miracle Plastic Sheeting

Miracle Plastic Sheeting, a transparent film, has been announced by General Plate Makers Supply Co. It may be applied to every type of work employing transparent film in the art and Graphic Arts fields, according to the manufacturer. The sponsor also maintains the product effectively takes and retains brush, pen work and markings of masking inks. In addition, it is claimed, the sheeting will not curl or buckle regardless of moisture and weather changes. It is available in 27 in. and 40 in. sheets and is made in 0.003 in., 0.005 in. 0.0075 in. and 0.010 in. thicknesses. For further details, please specify PEE No. 117.

Enlarging and Reducing Engraver

Fairchild Camera and Instrument Corp. has reported the development of an electronic engraving machine which will produce enlarged or reduced plastic halftones. Named the Scan-A-Sizer, the machine will accommodate copy measuring up to 18 in. by 22 in. and produce plastic halftones up to 11 in. by 14 in. The machine also features a variable screen device which permits making 85 or 120 screen halftones. It will be shown for the first time at the American Newspaper Publishers' Assoc. meeting in New York, April 19-22. Further details may be obtained by mentioning PEE No. 124 in your request.



Southworth Skid-Turner—The Southworth Machine Co. has announced the development of a machine for turning skids of paper. The sponsor states that the Skid-Turner will handle stock up to and including 52 in. by 72 in. in size and 5000 lbs. in weight. Sponsor states the skid may be turned in approx. 3 min. It is operated by a single worker using push-button controls. For further information, please mention PEE No. 118 in your request.

Screen Process Drying Rack

A movable steel rack for the drying of freshly printed sheets in screen process printing plants, has been announced by Lindsay Scott and Co., Inc. Designated the Kwikrax, the sponsor claims the thin steel traps in the device permits effective circulation of air. Each tray is equipped with automatic self-adjusting spring balance for finger-tip lift. The rack is mounted on 2½ in. rubber tire swivel casters. It will accommodate sheet sizes up to and including 46⅞ in. by 56 in. Other specifications are as follows: floor space, 56 in. by 60 in.; height trays down, 53 in.; height trays up, 99 in.; net weight, 683 lbs. For further details, please mention PEE No. 122 in your request.

Diazotype Film

A diazotype film for plant layout projects is now available from Repro-Templets, Inc. The film, which can be processed through any ammonia-vapor type of developing machine, produces a solid black-line as well as a graded tone image, in direct positive from tracings, drawings or templets. No negative or intermediate step is required. Its self-adhesive coated back, which can be peeled off, is covered

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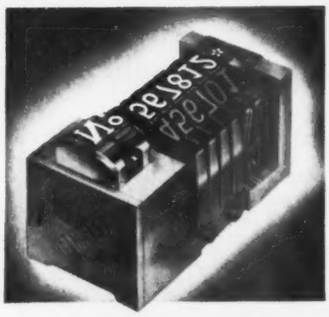

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Portable Electric Blower — Announcement of a portable electric blower recently was made by The Ace Co. Features of the model are a heavy duty 1 h.p. motor, without increase in the total weight of 14 lbs. For further information, please specify PEE No. 90 in your request.

Bourges Process Booklet

Uses of the Bourges color separation process are discussed in an attractively designed 32 page booklet prepared by Bourges, Incorporated. Reproduced in four colors, the booklet contains numerous illustrations which show how the process is used from layout, black-and white, to all types of separation copy in two, three and four colors. The text deals with how the artist can use transparent overlay sheets, water colors and pencils to prepare separated copy for the camera. Bourges claims the art materials and techniques discussed in the booklet can help the artist cut reproduction costs. It is stated that Bourges colors match printing inks. The booklet is available by requesting PEE No. 114 in your letter.

Camera in Second Run

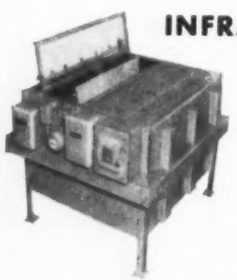
The first production run of the new Robertson Shooting Star precision copy camera, it is announced, has been delivered and installed ahead of schedule. Units of this camera are now in operation in New Haven (Conn.), St. Louis, Chicago, Pittsburgh, New York (N. Y.), and Greenfield (Mass.) Robertson Photo-Mechanix also states the second production run has been sold. Several modifications over the original design have been made as follows: A 180 deg. rotating copyboard allows both the spring loaded insert for reflected copy and the positive holder for glass plates to locate in position; special slots on the copyboard frame allow for oversize copy to be positioned on the insert board without creasing or folding; and a new exposure system allows for positioning the timer controls in either the darkroom or the gallery.

The vacuum film holder and the ground glass with the glass screen mechanism are vertically moved into the lower part of the rear case to save darkroom space, thus permitting a lower center of gravity. A screw drive coupled with counters and vernier dials to indicate lens and copy settings are claimed to make the camera a precision instrument. Please mention PEE No. 104 in your request for further information.

Plating of Gravure Cylinders

Procedures and techniques for electroplating rotogravure cylinders are illustrated and described in a four page bulletin, with a two page insert, issued by Hanson-Van Winkle-Munning Co. It includes a step-by step explanation of the cycle for plating gravure cylinders by the Ballard process. Illustrated in the bulletin are various types of processing tanks for plating operations. Another section deals with the uses, advantages and explanation of rotogravure printing. Recent developments in gravure plating equipment are also discussed. Please ask for PEE No. 115 if you desire a copy of the bulletin.

Salt Tablet Dispenser — General Scientific Equipment Co. has designed a salt tablet dispenser which may be placed in industrial plants during summer months. Sponsor states the visible tablets in the dispenser invite workers to take one to make up the loss of body salt due to excessive perspiration. Loss of the vital body salt can cause fatigue, laziness and, in some instances, heat prostration. The Ace dispenser holds up to 750 salt tablets of 10 gr. each. It is made mostly of glass and plastic. For further details, please mention PEE No. 97 in your request.



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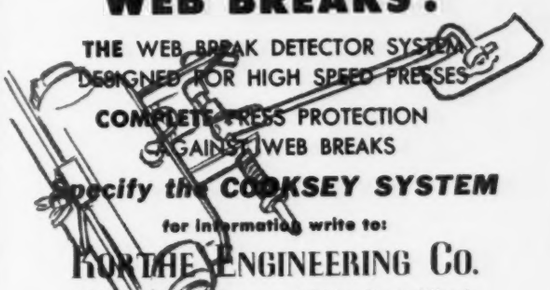

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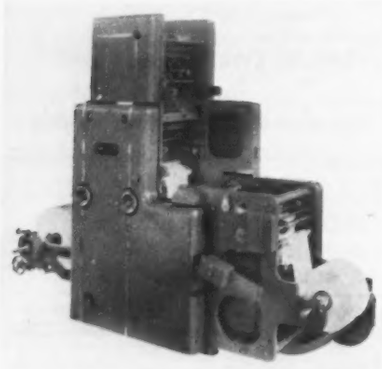
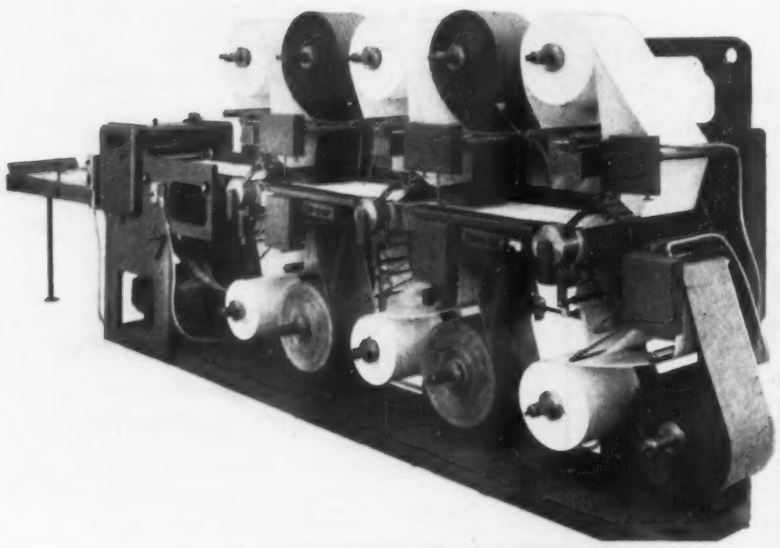
Gray Contact Screens

A line of Kodak Gray Contact Screens for making halftone separations directly from color transparencies, color prints, and color drawings, has been announced by the Eastman Kodak Co. The screens are available in a range of sizes from 8 by 10 in. to 22 by 23 in. and 150 line rulings only. The Gray Screens are made with a neutral screen pattern instead of a magenta colored image. This permits use of red, green and blue filters to produce direct halftone separations. Contrast in the separations can be achieved by any of three means, or by a combination of the same. These controls include flash control to lower the contrast in the shadow end of the scale, partial no-screen exposures to add highlight contrast, and still development to control highlight contrast. Further information may be obtained by requesting PEE No. 92.

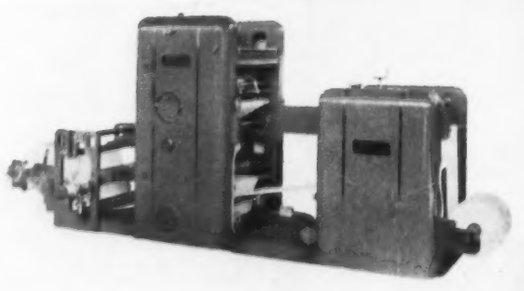


Speed-Flex Presses and Collator—Western Gear Works and Orville Dutro & Son, Inc., has announced three Speed-Flex machines as follows: a 13 in. by 17 in. roll to roll press (left); a roll to sheet fully automatic collator (below, center); and a 17 in. by 26 in. roll to roll or flat pack press (below, right).

The 13 in. by 17 in. roll to roll or Model C3C-R1R Speed-Flex press is designed specifically for operation in conjunction with the Speed-Flex collator. It will print one color on each side of a single web, and number and imprint in a second color on the face. This machine is equipped with line hole and filing punches and an automatic constant tension electronic rewinder. Speeds of up to 16,000 i.p.h. are claimed.



The Speed-Flex roll to sheet collator is equipped with automatic loop controls, and individual infeed for each roll and carbon roll. It is designed for high speed production of snapout forms with rated speeds of up to 10,000 sets per hr. Unit construction permits additional units to be added as desired. As optional equipment, the collator may be provided with an automatic device which will compensate for any accumulated errors that may occur in the line hole punching.



The 17 in. by 26 in. press, with speeds of up to 20,000 i.p.h., is designed for producing either continuous or snapout forms for automatic collators. It will print three colors on the face of a single web of paper, or will print the face and back of the web with numbers and imprints in a second color on the face. It will do line hole and filing punching, rotary perforating and anvil type cross perforating. The electronic rewinder is equipped with a constant tension device. Optional equipment includes flat pack folders for the production of continuous forms. Information on any of these machines may be obtained by mentioning PEE No. 105 in your request.

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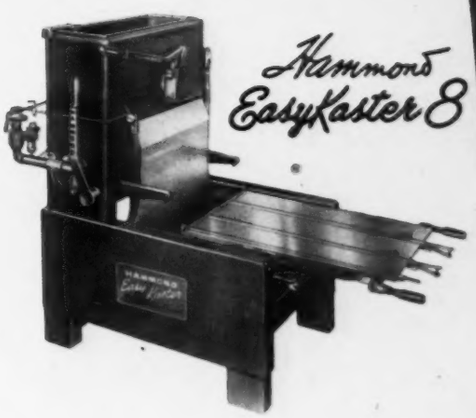

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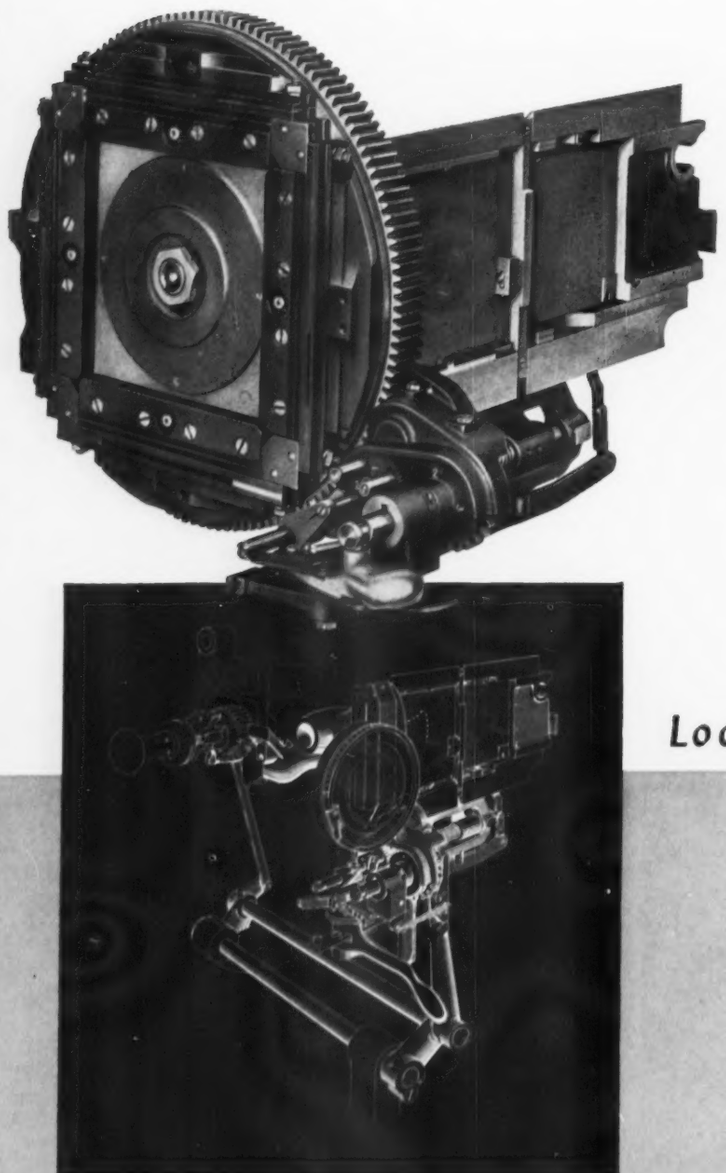

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